सिविल सेवा (प्रारंभिक) टेस्ट सीरीज़-2024

जब तक आपको यह परीक्षण पुस्तिका खोलने को न कहा जाए तब तक न खोलें

परीक्षण पुस्तिका अनुक्रम

Test Code: P1/P3-2409

परीक्षण पुस्तिका

सामान्य अध्ययन

टेस्ट – 09

A

समय : दो घण्टे **पूर्णांक : 200**

अनुदेश

1. **परीक्षा प्रारम्भ होने के तुरन्त बाद, आप इस परीक्षण पुस्तिका की पड़ताल अवश्य कर लें कि इसमें कोई बिना छपा, फटा या छूटा हुआ पृष्ठ अथवा प्रश्न आदि न हो। यदि ऐसा हो तो इसे सही परीक्षण पुस्तिका से बदल लीजिए।**
2. **उत्तर-पत्रक में सही स्थान पर परीक्षण पुस्तिका अनुक्रम A, B, C या D यथास्थिति स्पष्ट रूप से कूटबद्ध कीजिये।**
3. इस पंक्ति के साथ में दिये गए कोष्ठक में आपको अपना अनुक्रमांक लिखना है। परीक्षण पुस्तिका पर **और कुछ न** लिखें।
4. इस परीक्षण पुस्तिका में **100** प्रश्नांश (प्रश्न) दिये गए हैं। प्रत्येक प्रश्नांश हिन्दी और अंग्रेज़ी में छपा है। प्रत्येक प्रश्नांश में चार प्रत्युत्तर (उत्तर) दिये गए हैं। इनमें से एक प्रत्युत्तर को चुन लें जिसे आप उत्तर-पत्रक पर अंकित करना चाहते हैं। यदि आपको ऐसा लगे कि एक से अधिक प्रत्युत्तर सही हैं तो उस प्रत्युत्तर को अंकित करें जो आपको सर्वोत्तम लगे। प्रत्येक प्रश्नांश के लिये केवल एक ही प्रत्युत्तर चुनना है।
5. आपको अपने सभी प्रत्युत्तर अलग से दिये गए उत्तर-पत्रक पर ही अंकित करने हैं। उत्तर-पत्रक में दिये गए निर्देश देख लें।
6. सभी प्रश्नों के अंक समान हैं।
7. इससे पहले कि आप परीक्षण पुस्तिका के विभिन्न प्रश्नांशों के प्रत्युत्तर उत्तर पत्रक पर अंकित करना शुरू करें, आपको प्रवेश प्रमाण-पत्र के साथ प्रेषित अनुदेशों के अनुसार कुछ विवरण उत्तर-पत्रक में देने हैं।
8. आप अपने सभी प्रत्युत्तरों को उत्तर-पत्रक में भरने के बाद तथा परीक्षा के समापन पर केवल उत्तर-पत्रक अधीक्षक को सौंप दें। आपको अपने साथ परीक्षण पुस्तिका ले जाने की अनुमति है।
9. कच्चे काम के लिये कुछ पत्रक परीक्षण पुस्तिका के अंत में संलग्न हैं।
10. **गलत उत्तरों के लिये दंड:**

वस्तुनिष्ठ प्रश्न-पत्रों में उम्मीदवार द्वारा दिये गए गलत उत्तरों के लिये दंड दिया जाएगा।

(i) प्रत्येक प्रश्न के लिये चार वैकल्पिक उत्तर हैं। उम्मीदवार द्वारा प्रत्येक प्रश्न के लिये दिये गए एक गलत उत्तर के लिये प्रश्न हेतु नियत किये गए अंकों का **एक-तिहाई** दंड के रूप में काटा जाएगा।

(ii) यदि कोई उम्मीदवार एक से अधिक उत्तर देता है, तो इसे **गलत उत्तर** माना जाएगा, चाहे दिये गए उत्तरों में से एक उत्तर सही हो, उस प्रश्न के लिये उपर्युक्तानुसार ही दंड दिया जाएगा।

(iii) यदि उम्मीदवार द्वारा कोई प्रश्न हल नहीं किया जाता है, अर्थात् उम्मीदवार द्वारा उत्तर नहीं दिया जाता है, तो उस प्रश्न के लिये **कोई दण्ड नहीं** दिया जाएगा।

जब तक आपको यह परीक्षण पुस्तिका खोलने को न कहा जाए तब तक न खोलें

***ध्यान दें :* अनुदेशों का अंग्रेज़ी रूपान्तर इस पुस्तिका के अंतिम पृष्ठ पर छपा है।**

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1. 'CAR T-सेल थेरेपी' निम्नलिखित में से किससे संबंधित है?

(a) क्षयरोग उपचार
(b) कैंसर उपचार
(c) हृदय रोग
(d) तंत्रिका संबंधी विकार

2. 'केसलर सिंड्रोम' निम्नलिखित में से किससे संबंधित है?

(a) जलवायु परिवर्तन की घटनाएँ
(b) अंतरिक्ष मलबे का संघट्टन
(c) वित्तीय बाज़ार में उतार-चढ़ाव
(d) उष्णकटिबंधीय बीमारी का प्रकोप

3. 'Cry1ac' और 'Cry2ab' का उल्लिखित संदर्भ है

(a) कृषि जैव-प्रौद्योगिकी
(b) नवीकरणीय ऊर्जा स्रोत
(c) चिकित्सा निदान
(d) वन्यजीव संरक्षण के प्रयास

4. अनिवार्य लाइसेंसिंग के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह किसी को पेटेंट मालिक की सहमति के बिना पेटेंट किये गए उत्पाद अथवा प्रक्रिया का उत्पादन करने की अनुमति देता है।
2. यह ट्रिप्स अनुबंध के अंतर्गत प्रदान किया गया है।
3. ट्रिप्स समझौता विशेष रूप से अनिवार्य लाइसेंसिंग को उचित ठहराने के लिये उपयोग किये जाने वाले कारणों को सूचीबद्ध करता है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

5. निम्नलिखित पर विचार कीजिये:

1. समग्र ब्रह्मांड में समय की यांत्रिकी एक समान कार्य करती है।
2. प्रकाश सदैव सरल रेखा में गमन करता है और अपनी दिशा परिवर्तित नहीं कर सकता।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

6. कभी-कभी जनसमाचारों में उल्लिखित 'वन हेल्थ' पद निम्नलिखित में से किसका सर्वोत्तम वर्णन करता है?

(a) एक दृष्टिकोण जो मानता है कि लोगों का स्वास्थ्य पशुओं एवं हमारे साझा पर्यावरण के स्वास्थ्य से निकटता से संबंधित है।
(b) एक दर्शन जो मानव तथा पशु स्वास्थ्य को पृथक करने की वकालत करता है एवं पर्यावरण के साथ उनके अंतर्संबंधों की उपेक्षा करता है।
(c) एक लौकिक दर्शन जिसके अनुसार स्वास्थ्य आकाशीय पिंडों के संरेखण से निर्धारित होता है तथा इसका पशुओं अथवा पर्यावरण से कोई संबंध नहीं है।
(d) एक ऐसी रणनीति जो पशुओं तथा पर्यावरण के साथ संबंधों को नज़रअंदाज़ करते हुए केवल मनुष्यों में संक्रामक रोगों का समाधान करती है।

7. क्वांटम कुंजी वितरण (QKD) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. QKD डेटा ट्रांसफर करने हेतु फोटॉन का उपयोग करके कार्य करता है।
2. QKD एन्क्रिप्शन को आमतौर पर इसके फोटॉन-आधारित ट्रांसमिशन के कारण अभेद्य माना जाता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

8. बोस-आइंस्टीन संघनित के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. ठोस, द्रव्य, गैस एवं प्लाज़्मा के बाद यह पदार्थ की 5वीं प्राकृतिक अवस्था है।
2. इसका निर्माण अत्यधिक उच्च तापमान पर होता है।
3. इसमें सुपरफ्लुइड के कई गुण हैं।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

9. कभी-कभी जनसमाचारों में उल्लिखित "आयरन डोम" क्या है?

(a) पनडुब्बी प्रणोदन तकनीक
(b) साइबर सुरक्षा संरक्षण
(c) वायु रक्षा प्रणाली
(d) सीमा दीवार किलेबंदी

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1. 'CAR T-cell therapy' is associated with which of the following?

(a) Treatment of Tuberculosis (TB)
(b) Cancer treatment
(c) Heart diseases
(d) Neurological disorders

2. 'Kessler syndrome' is associated with which of the following?

(a) Climate change phenomena
(b) Space debris collision
(c) Financial market fluctuations
(d) Tropical disease outbreak

3. 'Cry1ac' and 'Cry2ab' are mentioned in the context of

(a) Agricultural biotechnology
(b) Renewable energy sources
(c) Medical diagnostics
(d) Wildlife conservation efforts

4. With reference to Compulsory licensing, consider the following statements:

1. It allows one to produce a patented product or process without the consent of the patent owner.
2. It has been provided under the TRIPS Agreement.
3. TRIPS agreement specifically lists the reasons used to justify compulsory licensing.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

5. Consider the following:

1. Mechanics of time work the same everywhere in the universe.
2. The light always travels in a straight line and cannot change its direction.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

6. Which of the following best describes the term 'One health' often mentioned in news?

(a) An approach that recognizes that the health of people is closely connected to the health of animals and our shared environment.
(b) A philosophy that advocates for the separation of human and animal health, disregarding their interconnectedness with the environment.
(c) A cosmic philosophy that suggests health is determined by the alignment of celestial bodies and has no connection to animals or the environment.
(d) A strategy that solely addresses infectious diseases in humans while ignoring the connections with animals and the environment.

7. With reference to Quantum Key Distribution (QKD), consider the followings statements:

1. It works by using photons to transfer data.
2. Encryption using QKD is generally considered unbreakable because of being carried via the photon.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

8. With reference to Bose-Einstein Condensate, consider the following statements:

1. It is the 5th natural state of matter after solid, liquid, gas and Plasma.
2. It is formed at extremely high temperatures.
3. It has many of the properties of a superfluid.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(b) All three *(d)* None

9. What is "Iron Dome", sometimes seen in the news?

(a) Submarine propulsion technology
(b) Cybersecurity protection
(c) Air defence system
(d) Border wall fortification

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10. एक्सेलरेट विज्ञान योजना के संदर्भ में, निम्नलिखित पर विचार कीजिये:

1. विज्ञान और इंजीनियरिंग अनुसंधान बोर्ड (SERB) ने यह योजना प्रारंभ की है।
2. इसका प्राथमिक उद्देश्य ग्रामीण महिलाओं में वैज्ञानिक दृष्टिकोण विकसित करना है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

11. OSIRIS-REx मिशन के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. किसी क्षुद्रग्रह से नमूना एकत्रित करने वाला यह पहला अमेरिकी मिशन है।
2. इसने क्षुद्रग्रह रयुगु से नमूना सामग्री सफलतापूर्वक एकत्रित की है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

12. हाल के जनसमाचारों में उल्लिखित 'आई.एन.एस. विक्रांत' का निम्नलिखित में से कौन-सा सर्वोत्तम वर्णन है?

(a) उभयचर युद्धपोत
(b) परमाणु संचालित पनडुब्बी
(c) टारपीडो लॉन्च और रिकवरी पोत
(d) स्वदेशी रूप से विकसित विमानवाहक पोत

13. ग्राफीन-ऑरोरा कार्यक्रम के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. विज्ञान और प्रौद्योगिकी मंत्रालय द्वारा ग्राफीन-ऑरोरा कार्यक्रम प्रारंभ किया गया है।
2. इसका उद्देश्य ग्राफीन अनुसंधान और व्यावसायीकरण के बीच अंतर को समाप्त करना है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1
(b) केवल 2
(c) 1 और 2 दोनों
(d) न तो 1 और न ही 2

14. 'ग्लूकोसाइनोलेट्स' के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह कार्बन एवं नाइट्रोजन युक्त यौगिकों का एक समूह है जो सरसों के उत्पादों को विशिष्ट मिठास देने में योगदान देता है।
2. यह पौधों को आक्रामक रोगजनकों तथा पशुओं से बचाता है।
3. उच्च ग्लूकोसाइनोलेट्स पशुओं में गलगंड एवं आंतरिक अंग असामान्यताओं का कारण बनता है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

15. निम्नलिखित कथनों पर विचार कीजिये:

1. असम, आयुष्मान भारत की माइक्रोसाइट परियोजना को प्रारंभ करने वाला पहला राज्य बन गया।
2. राष्ट्रीय स्वास्थ्य प्राधिकरण द्वारा आयुष्मान भारत डिजिटल मिशन (ABDM) के अंतर्गत 100 माइक्रोसाइट्स प्रोजेक्ट शुरू किये गए हैं।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

16. फार्मा मेडटेक क्षेत्र में अनुसंधान और नवाचार को बढ़ावा देने की योजना (PRIP) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसका उद्देश्य प्राथमिकता वाले क्षेत्रों में अनुसंधान और विकास के लिये उद्योग-अकादमिक संपर्क को बढ़ावा देना है।
2. योजना की अवधि वर्ष 2023-24 से वर्ष 2027-28 तक 5 वर्ष है।
3. निगरानी और मूल्यांकन नीति आयोग के मुख्य कार्यकारी अधिकारी की अध्यक्षता में एक अधिकार प्राप्त समिति द्वारा किया जाएगा।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक
(b) केवल दो
(c) सभी तीन
(d) कोई भी नहीं

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10. With reference to Accelerate Vigyaan Scheme, consider the following:

1. Science and Engineering Research Board (SERB) has launched this scheme.
2. Its primary objective is to inculcate scientific temper in rural women.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

11. With reference to OSIRIS-REx mission, consider the following statements:

1. It is the first U.S. mission to collect a sample from an asteroid.
2. It has successfully collected sample material from asteroid Ryugu.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

12. Which one of the following is the best description of 'INS Vikrant", that was in the news recently?

(a) Amphibious warfare ship
(b) Nuclear-powered submarine
(c) Torpedo launch and recovery vessel
(d) Indigenously developed aircraft carrier

13. With reference to Graphene-Aurora program, consider the following statements:

1. The Ministry of Science and Technology launched the Graphene-Aurora program.
2. Aim is to bridge the gap between graphene research and commercialization.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

14. Consider the following statements with reference to 'Glucosinolates':

1. It is a group of carbon and nitrogen containing compounds giving characteristic sweetness to mustard products.
2. It protects plants from invading pathogens and animals.
3. High glucosinolates causes goiter and internal organ abnormalities in livestock.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

15. Consider the following statements:

1. Assam became the first state to operationalize Ayushman Bharat's Microsite project.
2. National Health Authority launched 100 Microsites Project under the Ayushman Bharat Digital Mission (ABDM).

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

16. Consider the following statements with reference to Scheme for Promotion of Research and Innovation in Pharma MedTech Sector (PRIP):

1. Aim is to promote industry-academia linkage for research and development in priority areas.
2. The duration of the scheme is 5 years from 2023-24 to 2027-28.
3. Monitoring and evaluation will be done by an Empowered Committee under the chairmanship of CEO of NITI Aayog.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

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17. अग्निबाण सबऑर्बिटल टेक्नोलॉजिकल डिमॉन्स्ट्रेटर (SOrTeD) के संदर्भ में, निम्नलिखित पर विचार कीजिये:

1. यह एक अनुकूलित विमोचन यान है, जिसका इंजन 3डी-मुद्रित तथा ठोस प्रणोदक प्रकृति का है।
2. गाइड रेल से विमोचित होने वाले पारंपरिक रॉकेटों के विपरीत, यह लंबवत रूप से उड़ान भरेगा एवं एक पूर्व-निर्धारित प्रक्षेप पथ का अनुसरण करेगा।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

18. 'नीराक्षी' निम्नलिखित में से किसको सर्वश्रेष्ठ रूप से संदर्भित करता है?

(a) ऑटोनॉमस अंडरवाटर व्हीकल
(b) क्लाउड सेवाएँ
(c) वार्षिक संयुक्त सैन्य अभ्यास
(d) अपतटीय गश्ती पोत

19. रिड्यूस्ड इंस्ट्रक्शन सेट कंप्यूटर (RISC-V) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह एक ओपन-सोर्स हार्डवेयर है जिसका उपयोग विभिन्न प्रकार के अंतिम अनुप्रयोगों को लक्षित करने वाले कस्टम प्रोसेसर के विकास के लिये किया जाता है।
2. ये प्रोसेसर परिधेय वस्तुओं, IoT, स्मार्टफोन, ऑटोमोटिव एवं एयरोस्पेस आदि में बहुमुखी रूप से अनुप्रयोगी होते हैं।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

20. विधिक और राजनीतिक प्रथाओं के संदर्भ में "फोरम शॉपिंग" का सर्वोत्तम वर्णन क्या है?

(a) किसी विधिक मामले के लिये सबसे अनुकूल क्षेत्राधिकार खोजने के लिये अधिवक्ताओं द्वारा अपनाई गई एक रणनीति।
(b) वैश्विक मुद्दों को हल करने के लिये अंतर्राष्ट्रीय सम्मेलन आयोजित करने की एक राजनयिक प्रथा।
(c) विभिन्न विषयों पर चर्चा एवं विचारों के आदान-प्रदान के लिये एक ऑनलाइन मंच।
(d) नीतिगत विषयों पर जनता की राय जानने के लिये राजनीतिक दलों द्वारा प्रयोग की जाने वाली एक विधि।

21. निम्नलिखित कथनों पर विचार कीजिये:

1. भारत के संविधान के अनुसार, ज़िला न्यायाधीशों की नियुक्ति राज्य के मुख्यमंत्री के परामर्श के बाद राज्यपाल द्वारा की जाती है।
2. कोई व्यक्ति ज़िला न्यायाधीश नियुक्त होने के लिये केवल तभी अर्हत होगा यदि वह कम से कम दस वर्ष तक अधिवक्ता रहा हो।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

22. निम्नलिखित कथनों पर विचार कीजिये:

1. 103वें संविधान संशोधन अधिनियम द्वारा राष्ट्रीय पिछड़ा वर्ग आयोग (NCBC) को संवैधानिक दर्ज़ा प्रदान किया गया।
2. काका कालेलकर आयोग पिछड़े वर्गों के लिये गठित पहला आयोग था।
3. केंद्रीय सामाजिक न्याय और अधिकारिता मंत्री राष्ट्रीय पिछड़ा वर्ग आयोग के पदेन अध्यक्ष के रूप में कार्य करता है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

23. प्रतिकूल अधिग्रहण की अवधारणा के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इस अवधारणा का उद्देश्य भूमि स्वामित्व पर लंबे समय से चले आ रहे संदेह को रोकना है।
2. भारत में 30 वर्ष से अधिक समय तक सरकारी भूमि को अधिग्रहित करने वाला कोई भी व्यक्ति उस संपत्ति का स्वामी बन सकता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

24. मेयोन ज्वालामुखी, ताल ज्वालामुखी और कैबेलियन ज्वालामुखी निम्नलिखित में से किस देश में स्थित हैं?

(a) इंडोनेशिया *(b)* जापान
(c) फिलीपींस *(d)* मेक्सिको

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17. Consider the following with reference to Agnibaan SubOrbital Technological Demonstrator (SOrTeD):

1. It is a customizable launch vehicle, whose engine is 3D-printed and solid propellant in nature.
2. Unlike traditional rockets that launch from guide rails, it will lift off vertically and follow a predetermined trajectory

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

18. 'Neerakshi' best refers to which of the following?

(a) Autonomous Underwater Vehicle
(b) Cloud Services
(c) Annual joint military exercise
(d) Offshore patrol vessel

19. Consider the following statements with reference to Reduced Instruction Set Computer (RISC-V):

1. It is an open-source hardware used for the development of custom processors targeting a variety of end applications.
2. These processors find versatile applications in wearables, IoT, smartphones, automotive and aerospace.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

20. What does the term "Forum shopping" best refer to in the context of legal and political practices?

(a) A strategy employed by lawyers to find the most favourable jurisdiction for a legal case.
(b) A diplomatic practice of convening international conferences to resolve global issues.
(c) An online platform for discussing and exchanging ideas on various topics.
(d) A method used by political parties to solicit public opinion on policy matters.

21. Consider the following statements:

1. As per the constitution of India, district judges are appointed by the Governor after consultation with the Chief Minister of the State.
2. A person shall only be eligible to be appointed a district judge if he has been for not less than ten years an advocate.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

22. Consider the following statements:

1. 103rd Constitutional Amendment Act provided constitutional status to the National Commision for Backward Classes (NCBC).
2. The Kaka Kalelkar commission was the first backward classes commission.
3. Union minister of Social Justice and Empowerment acts as ex officio chairperson of NCBC.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

23. With reference to the concept of Adverse possession, consider the following statements:

1. The concept aims to prevent long-standing doubts over land ownership.
2. In India, any person in possession of government land for over 30 years can become the owner of that property.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

24. Mayon volcano, Taal volcano, and Cabalian volcano are located in which of the following countries?

(a) Indonesia *(b)* Japan
(c) Philippines *(d)* Mexico

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25. निम्नलिखित कथनों पर विचार कीजिये:

1. रामप्रसाद बिस्मिल द्वारा हिंदुस्तान रिपब्लिकन एसोसिएशन (HRA) की स्थापना की गई।
2. हिंदुस्तान रिपब्लिकन एसोसिएशन का उद्देश्य सत्याग्रह के माध्यम से संयुक्त राज्य अमेरिका में एक संघीय गणराज्य स्थापित करना था।
3. काकोरी ट्रेन डकैती हिंदुस्तान रिपब्लिकन एसोसिएशन की एक प्रमुख कार्रवाई थी।

उपर्युक्त में से कौन-सा कथन सही है?

(a) केवल 1 और 2 *(b)* केवल 2 और 3
(c) केवल 1 और 3 *(d)* 1, 2 और 3

26. राष्ट्रीय सामाजिक सहायता कार्यक्रम (NSAP) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसका संचालन ग्रामीण विकास मंत्रालय द्वारा किया जाता है।
2. यह अनुच्छेद 41 के संवैधानिक अधिदेश को पूरा करता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

27. निम्नलिखित युग्मों पर विचार कीजिये:

	भौगोलिक उपदर्शन प्रमाणन (GI टैग)		*राज्य*
1.	धातु शिल्प	:	मध्य प्रदेश
2.	उस्ता कला	:	राजस्थान
3.	बेबिंका	:	नगालैंड

उपर्युक्त में से कितने युग्म सही सुमेलित हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

28. निम्नलिखित कथनों पर विचार कीजिये:

1. NIXI एक सरकारी स्वामित्व वाली इकाई है जो भारत में ग्रामीण क्षेत्रों में मुफ्त इंटरनेट पहुँच प्रदान करने के लिये ज़िम्मेदार है।
2. भारत में नेट न्यूट्रैलिटी को सूचना प्रौद्योगिकी अधिनियम, 2000 के अंर्तगत विनियमित किया जाता है।
3. सॉफ्ट टच दिशा-निर्देश समाचार प्रकाशकों तथा डिजिटल मीडिया पर ओवर द टॉप (OTT) प्लेटफार्मों के लिये जारी किये गए हैं।

उपर्युक्त में से कौन-सा/से कथन सही है/हैं?

(a) केवल 1 और 2
(b) केवल 2
(c) केवल 3
(d) 1, 2 और 3

29. निम्नलिखित में से कौन-सा भारत सरकार द्वारा प्रारंभ की गई वैभव योजना के प्राथमिक उद्देश्य का सर्वोत्तम वर्णन करता है?

(a) विदेशी विश्वविद्यालयों में उच्च शिक्षा प्राप्त करने वाले भारतीय छात्रों को वित्तीय सहायता प्रदान करना।
(b) नवीकरणीय ऊर्जा एवं जलवायु परिवर्तन के क्षेत्र में अंतर्राष्ट्रीय सहयोग को बढ़ावा देना।
(c) भारतीय प्रवासियों एवं भारतीय शैक्षणिक और अनुसंधान संस्थानों के बीच सहयोग को सुविधाजनक बनाना।
(d) भारत और पड़ोसी देशों के बीच व्यापार और आर्थिक संबंधों को बढ़ावा देना।

30. कोलेस्ट्रॉल के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह एक प्रकार का लिपिड है जो मानव शरीर के सामान्य कार्य के लिये आवश्यक है।
2. उच्च घनत्व वाले लिपोप्रोटीन (HDL) कोलेस्ट्रॉल को "खराब" कोलेस्ट्रॉल माना जाता है क्योंकि इससे धमनी में रुकावट हो सकती है।
3. कम घनत्व वाले लिपोप्रोटीन (LDL) कोलेस्ट्रॉल को "अच्छा" कोलेस्ट्रॉल माना जाता है क्योंकि यह रक्तप्रवाह से कोलेस्ट्रॉल के निष्कर्षण में सहायता प्रदान करता है।
4. उच्च घनत्व वाले लिपोप्रोटीन (HDL) कोलेस्ट्रॉल का बढ़ा हुआ स्तर हृदय रोगों के बढ़ते खतरे को दर्शाता है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक
(b) केवल दो
(c) केवल तीन
(d) सभी चार

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25. Consider the following statements:

1. Ramprasad Bismil formed the Hindustan Republican Association (HRA).
2. The HRA aimed to establish a federal Republic of the United States of India through satyagraha.
3. Kakori train robbery was a major action of the HRA.

Which of the statements given above are correct?

(a) 1 and 2 only *(b)* 2 and 3 only
(c) 1 and 3 only *(d)* 1, 2 and 3

26. With reference to National Social Assistance Programme (NSAP), consider the following statements:

1. It is administered by the Ministry of Rural Development.
2. It fulfils the constitutional mandate of Article 41.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

27. Consider the following pairs:

	GI Tag		*State*
1.	Dhatu Shilp	:	Madhya Pradesh
2.	Usta Kala	:	Rajasthan
3.	Bebinca	:	Nagaland

How many of the above pairs are correctly matched?

(a) Only one *(b)* Only two
(c) All three *(d)* None

28. Consider the following statements:

1. National Internet Exchange of India (NIXI) is a government-owned entity responsible for providing free internet access to rural areas in India.
2. Net neutrality in India is regulated under the Information Technology Act, 2000.
3. The soft touch guidelines are issued for news publishers and Over the Top (OTT) platforms on the digital media.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

29. Which of the following best describes the primary objective of the Vaibhav Scheme initiated by Government of India?

(a) To provide financial support to Indian students pursuing higher education in foreign universities.
(b) To promote international collaborations in the field of renewable energy and climate change.
(c) To facilitate collaboration between the Indian diaspora and Indian academic and research institutions.
(d) To enhance the trade and economic ties between India and neighbouring countries.

30. With reference to cholesterol, consider the following statements:

1. It is a type of lipid essential for the normal functioning of the human body.
2. High-density lipoprotein (HDL) cholesterol is regarded as "bad" cholesterol as can lead to artery blockages.
3. Low-density lipoprotein (LDL) cholesterol is regarded as "good" cholesterol as it helps remove cholesterol from the bloodstream.
4. Elevated levels of High Density Lipoprotein (HDL) cholesterol are associated with an increased risk of cardiovascular diseases.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) Only three
(d) All four

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31. निम्नलिखित पर विचार कीजिये:

1. अर्थव्यवस्था के लिये आदर्श स्थिति
2. स्थिर आर्थिक वृद्धि
3. बढ़ती हुई महँगाई
4. अर्थव्यवस्था का विस्तार

उपर्युक्त में से कितने अर्थव्यवस्था के गोल्डीलॉक्स परिदृश्य का वर्णन करते हैं?

(a) केवल एक *(b)* केवल दो
(c) केवल तीन *(d)* सभी चार

32. "ग्रीनवॉशिंग" के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह वह प्रथा है जिसमें कंपनियाँ और सरकारें सभी प्रकार की गतिविधियों को जलवायु-अनुकूल के रूप में चिह्नित करती हैं, जिससे उत्सर्जन में कमी आएगी अथवा उत्सर्जन से बचा जा सकेगा।
2. इससे कार्बन समायोजन बाज़ार में पारदर्शिता की कमी हो सकती है।
3. इसे उपभोक्ता संरक्षण अधिनियम, 2019 के अंतर्गत एक अनुचित व्यापार व्यवहार माना जा सकता है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

33. ग्रेट इंडियन बस्टर्ड के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह सबसे बड़ा उड़ने में असमर्थ पक्षी है।
2. यह राजस्थान एवं गुजरात का राजकीय पक्षी है।
3. IUCN रेड लिस्ट के अंतर्गत इसे 'संकटग्रस्त' स्थिति प्राप्त है।
4. यह भारतीय उपमहाद्वीप पर शुष्क घास के मैदानों और झाड़ियों में निवास करता है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक
(b) केवल दो
(c) केवल तीन
(d) सभी चार

34. निम्नलिखित कथनों पर विचार कीजिये:

कथन-I:
विपरीत परिसंचरण सागरीय धाराओं के वैश्विक नेटवर्क को संदर्भित करता है जो विश्व के महासागरों में ऊष्मा, कार्बन और पोषक तत्त्वों का पुनर्वितरण करता है।

कथन-II:
विपरीत परिसंचरण गहरे सागरों में ऑक्सीजन की आपूर्ति सुनिश्चित करता है, सागरीय जीवन और उसके पारिस्थितिक तंत्र का समर्थन भी करता है।

उपर्युक्त कथनों के बारे में, निम्नलिखित में से कौन-सा एक सही है?

(a) कथन-I और कथन-II दोनों सही हैं तथा कथन-II, कथन-I की सही व्याख्या है।
(b) कथन-I और कथन-II दोनों सही हैं तथा कथन-II, कथन-I की सही व्याख्या नहीं है।
(c) कथन-I सही है किंतु कथन-II गलत है।
(d) कथन-I गलत है किंतु कथन-II सही है।

35. हाल के जनसमाचारों में देखा गया बेलेम घोषणापत्र संबंधित है

(a) सतत् विकास को बढ़ावा देने, वनोन्मुलन को समाप्त करने के साथ निर्णयन में मूल निवासी समुदायों की भागीदारी को शामिल करने के लिये एक रोडमैप।
(b) वैश्विक स्तर पर इलेक्ट्रिक वाहन उद्योग एवं बैटरी विनिर्माण को बढ़ावा देने की एक पहल।
(c) धनशोधन, संगठित अपराध और सीमा पार बहुराष्ट्रीय आर्थिक अपराध से निपटने के लिये एक संयुक्त प्रयास।
(d) मानव, पशु और पारिस्थितिकी तंत्र-आधारित सेवाओं को शामिल करते हुए वन हेल्थ दृष्टिकोण।

36. पारे पर मिनामाता अभिसमय के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसके लिये भागीदार देशों को कोयला आधारित विद्युत् संयंत्रों से पारा वायु उत्सर्जन तथा कारीगर एवं छोटे पैमाने पर सोने के खनन से पारे के निष्कर्षण को नियंत्रित करने की आवश्यकता है।
2. यह मानव स्वास्थ्य और पर्यावरण को पारे के प्रतिकूल प्रभावों से बचाने के लिये विधिक रूप से बाध्यकारी संधि है।
3. भारत, इस संधि में शामिल है लेकिन अभी तक इस अभिसमय का अनुमोदन नहीं किया गया है।

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31. Consider the following:

1. Ideal state for economy
2. Steady economic growth
3. Rising inflation
4. Expanding economy

How many of the above describes the Goldilocks Scenario of the economy?

(a) Only one *(b)* Only two
(c) Only three *(d)* All four

32. With reference to "greenwashing", consider the following statements:

1. It is the practice in which firms and governments mark all kinds of activities as climate-friendly, that would lead to emissions reduction, or avoidance of emissions.
2. It can lead to a lack of transparency in the carbon offset market.
3. It can be considered an unfair trade practice under the Consumer Protection Act, 2019.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

33. With reference to Great Indian Bustard, consider the following statements:

1. It is the largest flightless bird.
2. It is the state bird of Rajasthan and Gujarat.
3. It has 'endangered' status under IUCN Red List.
4. It inhabits dry grasslands and scrublands on the Indian subcontinent.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) Only three
(d) All four

34. Consider the following statements:

Statement-I:
Overturning circulation refers to the global network of ocean currents that redistribute heat, carbon, and nutrients across the world's oceans.

Statement-II:
Overturning circulation ensures the supply of oxygen to the deep ocean, supporting marine life and its ecosystems.

Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.
(c) Statement-I is correct but Statement-II is incorrect.
(d) Statement-I is incorrect but Statement-II is correct.

35. Belem Declaration recently seen in news is associated with

(a) a roadmap to promote sustainable development, end deforestation and involve participation of indigenous people in decision making.
(b) an initiative to promote electric vehicle industry and battery manufacturing at global scale.
(c) a joint effort to combat money laundering, organised crime and transnational economic offence across the border.
(d) a one health approach encompassing human, animal and ecosystem-based services.

36. With reference to Minamata Convention on Mercury, consider the following statements:

1. It requires the party nations to control mercury air emissions from coal fired power plants and release of mercury from artisanal and small-scale gold mining.
2. It is a legally binding treaty to protect human health and environment from adverse effects of mercury.
3. India is a part of this treaty but is yet to ratify it.

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उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक (b) केवल दो

(c) सभी तीन (d) कोई भी नहीं

37. धौलपुर-करौली बाघ अभयारण्य निम्नलिखित में से किस राज्य में स्थित है?

(a) गुजरात (b) राजस्थान

(c) महाराष्ट्र (d) मध्य प्रदेश

38. हाल ही में भारत ने निम्नलिखित में से किस देश के साथ इनिशिएटिव ऑन क्रिटिकल एंड इमर्जिंग टेक्नोलॉजीज (iCET) नामक समझौते पर हस्ताक्षर किये?

(a) फ्राँस

(b) जापान

(c) यूनाइटेड किंगडम

(d) संयुक्त राज्य अमेरिका

39. निम्नलिखित देशों पर विचार कीजिये:

1. लीबिया 2. मिस्र
3. तुर्की 4. अल्बानिया
5. बुल्गारिया 6. मैसेडोनिया

उपर्युक्त देशों में से कितने देश यूनान के साथ स्थल सीमा साझा करते हैं?

(a) केवल तीन (b) केवल चार

(c) केवल पाँच (d) सभी छह

40. निवेश के संदर्भ में, BAA3, BBB, AAA एवं D पद का अर्थ है

(a) वर्णमाला मान जो किसी स्टॉक के उतार-चढ़ाव से लेकर समग्र शेयर बाज़ार में बदलावों को मापते हैं।

(b) प्रणालीगत जोखिम के प्रकार जो वहाँ उत्पन्न होते हैं जहाँ सही बचाव संभव नहीं है।

(c) बिमल जालान समिति द्वारा अनुशंसित बैड बैंकों की श्रेणियाँ।

(d) कंपनियों, संगठनों और उद्यमों को एजेंसियों द्वारा दिये गए क्रेडिट रेटिंग के ग्रेड।

41. भारत में 'निगमित सामाजिक उत्तरदायित्व' निम्नलिखित में से किसके माध्यम से प्रारंभ किया गया था?

(a) कंपनी अधिनियम, 2013

(b) जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974

(c) पर्यावरण (संरक्षण) अधिनियम, 1986

(d) प्रतिस्पर्द्धा अधिनियम, 2002

42. त्वरित अनुपात (एसिड टेस्ट रेशियो) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह किसी कंपनी की सबसे अल्पकालिक परिसंपत्तियों की तुलना उसकी सबसे अल्पकालिक देनदारियों से करता है।
2. 1.0 अथवा उससे कम का अनुपात इंगित करता है कि कंपनी अपने अल्पकालिक दायित्वों का भुगतान कर सकती है, जबकि 1.0 से अधिक का अनुपात इंगित करता है कि उसे उन्हें भुगतान करने में कठिनाई हो सकती है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 (b) केवल 2

(c) 1 और 2 दोनों (d) न तो 1 और न ही 2

43. हाल ही में जनसमाचारों में रहा 'नमोह 108' संदर्भित करता है

(a) पश्चिमी घाट में मिली छिपकली की एक नई प्रजाति

(b) आई.आई.टी. मद्रास द्वारा विकसित नया आनुवंशिक रूप से संशोधित चावल।

(c) मणिपुर में खोजी गई कमल की एक नई प्रजाति।

(d) एक प्रकार का विषाणु जो जीवाणुओं को मार सकता है।

44. निम्नलिखित सार्वजनिक क्षेत्र के उपक्रमों पर विचार कीजिये:

1. स्टील अथॉरिटी ऑफ इंडिया लिमिटेड
2. ऑयल इंडिया लिमिटेड
3. नेशनल एल्युमीनियम कंपनी लिमिटेड

उपर्युक्त में से कितने महारत्न केंद्रीय सार्वजनिक क्षेत्र के उपक्रम हैं?

(a) केवल एक (b) केवल दो

(c) सभी तीन (d) कोई भी नहीं

45. यूनिवर्सल सर्विस ऑब्लिगेशन फंड (USOF) के संदर्भ में, निम्नलिखित कथन पर विचार कीजिये:

1. भारत नेट, USOF द्वारा वित्त पोषित है।
2. यह भारतीय टेलीग्राफ अधिनियम, 1885 के अंर्तगत स्थापित किया गया है।
3. USOF का लक्ष्य ग्रामीण और दूरदराज के क्षेत्रों में किफायती मूल्य पर टेलीग्राफ सेवाएँ प्रदान करना है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक (b) केवल दो

(c) सभी तीन (d) कोई भी नहीं

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How many of the above statements are correct?

(a) Only one (b) Only two
(c) All three (d) None

37. In which one of the following states is Dholpur-Karauli Tiger Reserve located?

(a) Gujarat (b) Rajasthan
(c) Maharashtra (d) Madhya Pradesh

38. Recently India signed a deal known as Initiative on Critical and Emerging Technologies (iCET) with which of the following countries?

(a) France
(b) Japan
(c) United Kingdom
(d) United States of America

39. Consider the following countries:

1. Libya 2. Egypt
3. Turkey 4. Albania
5. Bulgaria 6. Macedonia

How many of the above-mentioned countries share a land border with Greece?

(a) Only three (b) Only four
(c) Only five (d) All six

40. In the context of investment, the term BAA3, BBB, AAA and D refers to

(a) alphabetic values that measure the fluctuation of a stock to changes in the overall stock market.
(b) types of systemic risk that arise where perfect hedging is not possible.
(c) categories of bad banks recommended by Bimal Jalan Committee.
(d) grades of credit rating given by agencies to companies, organizations and enterprises.

41. In India 'Corporate Social Responsibility' was introduced through which of the following?

(a) The Companies Act, 2013
(b) The Water (Prevention and Control of Pollution) Act, 1974
(c) The Environment (Protection) Act, 1986
(d) The competition Act, 2002

42. With reference to acid test ratio, consider the following statements:

1. It compares a company's most short-term assets to its most short-term liabilities.
2. A ratio of 1.0 or less indicates a company can pay its short-term obligations, while a ratio of more than 1.0 indicates it might struggle to pay them.

Which of the statements given above is/are correct?

(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

43. 'Namoh 108' recently seen in news refers to

(a) a new species of lizard found in western ghats
(b) a new genetically modified rice developed by IIT Madras.
(c) a variety of lotus discovered in Manipur.
(d) a kind of virus that can kill bacteria.

44. Consider the following Public Sector Enterprises:

1. Steel Authority of lndia Limited
2. Oil India Limited
3. National Aluminum Company Limited

How many of the above are Maharatna central public sector enterprises?

(a) Only one (b) Only two
(c) All three (d) None

45. Consider the following statement with reference to Universal Service Obligation fund (USOF):

1. Bharat Net is funded by USOF.
2. It is set up under the Indian Telegraph Act,1885.
3. USOF aims to provide telegraph services at affordable cost to rural and remote areas.

How many of the above statements are correct?

(a) Only one (b) Only two
(c) All three (d) None

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46. कभी-कभी जनसमाचारों में देखा जाने वाला 'प्लग एंड प्ले' मॉडल निम्नलिखित में से किसको सर्वोत्तम रूप से संदर्भित करता है?

(a) किसी परियोजना को नीलामी के माध्यम से सौंपने से पहले सभी विनियामक मंज़ूरी दी जाएंगी।

(b) जटिल वित्तीय व्युत्पत्तियों के साथ एक उच्च जोखिम वाली निवेश रणनीति।

(c) एक अवधारणा जहाँ उपकरणों को नियम व्यवस्था प्रारूप के बिना संयोजित और उपयोग किया जा सकता है।

(d) कई संबद्ध उपकरणों के साथ एक केंद्रीकृत प्रणाली।

47. उचित और लाभकारी मूल्य के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. चीनी मिलें किसानों को उनसे खरीदे गए गन्ने का भुगतान करने के लिये विधिक रूप से बाध्य हैं।
2. इसका भुगतान विक्रेता अथवा निविदाकार को गन्ने की सुपुर्दगी की तिथि से 14 दिन के भीतर किया जाता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2

(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

48. निम्नलिखित कथनों पर विचार कीजिये:

1. चालू खाता वस्तुओं और सेवाओं के व्यापार में अंतरण अनुदान का विवरण है।
2. वस्तुओं के व्यापार में वस्तुओं का निर्यात एवं आयात शामिल है।
3. सेवाओं के व्यापार में उपादान आय एवं गैर-उपादान आय विनिमय को शामिल किया गया हैं।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो

(c) सभी तीन *(d)* कोई भी नहीं

49. आधारभूत धन निम्नलिखित में से किसको सर्वोत्तम रूप से संदर्भित करती है?

(a) मौद्रिक प्राधिकरण द्वारा अर्थव्यवस्था में निवेशित धन।

(b) वह धन जिस पर सरकार का नियंत्रण हो।

(c) भारत की संचित निधि में हस्तांतरित धन।

(d) धन जो भविष्य की पीढ़ियों के लिये बचाया जाता है।

50. निम्नलिखित कथनों पर विचार कीजिये:

1. नियत विनिमय दर, सरकार अथवा केंद्रीय बैंक द्वारा लागू की गई एक व्यवस्था है जो देश की आधिकारिक मुद्रा विनिमय दर को दूसरे देश की मुद्रा से जोड़ती है।
2. नियत विनिमय दरों को स्वचालित संतुलन तंत्र द्वारा प्रबंधित किया जाता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2

(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

51. समुत्थानशील और समावेशी आपूर्ति-शृंखला संवर्द्धन (RISE) पहल के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसे भारत के नेतृत्व में विश्व आर्थिक मंच द्वारा शुरू किया गया है।
2. इसका उद्देश्य रोज़गार सृजन और जलवायु परिवर्तन की दोहरी चुनौतियों से निपटना है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1

(b) केवल 2

(c) 1 और 2 दोनों

(d) न तो 1 और न ही 2

52. लक्षित दीर्घकालिक रेपो परिचालन (TLTRO 2.0) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसे गैर-बैंकिंग वित्तीय कंपनियों को चलनिधि सहायता प्रदान करने के लिये शुरू किया गया था।
2. यह सुविधा बैंकों को रेपो दर पर भारतीय रिज़र्व बैंक से पाँच से दस वर्ष के लिये ऋण लेने की सुविधा देती है।
3. इस सुविधा के तहत बैंकों द्वारा किये गए निवेश को 'हेल्ड-टू-मैच्योरिटी' के रूप में वर्गीकृत किया जाएगा।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल 1

(b) केवल 2

(b) सभी तीन

(d) कोई भी नहीं

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46. 'Plug and Play' model sometimes seen in news best refers to which of the following ?

(a) all regulatory clearances will be put in place before a project is awarded through an auction.

(b) a high-risk investment strategy with complex financial derivatives.

(c) a concept where devices can be connected and used without manual configuration.

(d) a centralized system with multiple connected devices.

47. Consider the following statements with reference to Fair and Remunerative Price :

1. Sugar mills are legally bound to pay farmers for the sugarcane procured from them.
2. It is paid 14 days from the date of delivery of the sugarcane to the seller or tender.

Which of the statements given above is/are correct ?

(a) 1 only *(b)* 2 only

(c) Both 1 and 2 *(d)* Neither 1 nor 2

48. Consider the following statements :

1. Current Account is the record of trade in goods and services and transfer payments.
2. Trade in goods includes exports and imports of goods.
3. Trade in services includes factor income and non-factor income transactions.

How many of the above statements are correct ?

(a) Only one *(b)* Only two

(c) All three *(d)* None

49. High powered money, best refers to which of the following :

(a) Money injected by the monetary authority in the economy.

(b) Money which is controlled by the government.

(c) Money transferred to consolidated fund of India.

(d) Money which is saved for future generations.

50. Consider the following statements :

1. Fixed exchange rate is a regime applied by a government or central bank that ties the country's official currency exchange rate to another country's currency.
2. Fixed exchange rates are maintained by automatic equilibrium mechanism.

Which of the statements given above is/are correct ?

(a) 1 only *(b)* 2 only

(c) Both 1 and 2 *(d)* Neither 1 nor 2

51. With reference to the Resilient and Inclusive Supply-chain Enhancement (RISE) initiative, consider the following statements :

1. It has been launched by World Economic Forum under India's leadership.
2. It aims to tackle the dual challenges of job creation and climate change.

Which of the statements given above is/are correct ?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

52. With reference to Targeted Long-term Repo Operations (TLTRO 2.0), consider the following statements :

1. It was launched to provide liquidity support to Non-Banking Financial Companies.
2. This facility lets banks borrow five to ten years funds from the RBI at the repo rate.
3. The investments made by banks under this facility would be classified as 'Held-to-Maturity'.

How many of the above statements are correct ?

(a) Only one

(b) Only two

(b) All three

(d) None

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53. राष्ट्रीय आवास बैंक (NHB) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. अखिल भारतीय आवास मूल्य सूचकांक (HPI) राष्ट्रीय आवास बैंक द्वारा जारी किया जाता है।
2. यह भारतीय रिज़र्व बैंक (RBI) की पूर्ण स्वामित्व वाली सहायक कंपनी है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

54. "मसाला बॉण्ड" निम्नलिखित में से किसको संदर्भित करता है?

(a) ये एक वित्तीय शब्द हैं जिसका उपयोग विविध निवेश पोर्टफोलियो के लिये किया जाता है।
(b) ये एक भारतीय इकाई द्वारा भारत के बाहर जारी किये गए रुपए मूल्यवर्ग के बॉण्ड हैं।
(c) ये विदेशी निवेश के लिये भारत सरकार के अनुदान की एक श्रेणी हैं।
(d) ये इक्विटी बढ़ाने के लिये किसी विदेशी संस्था द्वारा भारत में जारी किये गए डॉलर मूल्यवर्ग के बॉण्ड हैं।

55. चुनावी बॉण्ड के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. भारतीय स्टेट बैंक (SBI) इन बॉण्डों का एकमात्र अधिकृत जारीकर्त्ता है।
2. सभी पंजीकृत राजनीतिक दल चुनावी बॉण्ड के माध्यम से दान प्राप्त करने के पात्र हैं।
3. इन बॉण्डों की वैधता जारी होने की तिथि से 1 वर्ष है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल 1 *(b)* केवल 2
(b) सभी तीन *(d)* कोई भी नहीं

56. अनुसूचित वाणिज्यिक बैंकों के लिये त्वरित सुधारात्मक कार्रवाई (PCA) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. पूंजी, परिसंपत्ति गुणवत्ता और पूंजी-से-जोखिम भारित संपत्ति अनुपात इस ढाँचे में निगरानी के प्रमुख क्षेत्र हैं।
2. PCA फ्रेमवर्क भारत में परिचालित सभी बैंकों पर लागू होता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

57. उभरते सितारे फंड के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह भारतीय स्टेट बैंक और भारतीय निर्यात संवर्द्धन परिषद द्वारा सह-प्रायोजित है।
2. इसका उद्देश्य विदेशी बाज़ारों में प्रवेश करने के इच्छुक विनिर्माण और सेवा उद्योगों में निवेश करना है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1
(b) केवल 2
(c) 1 और 2 दोनों
(d) न तो 1 और न ही 2

58. पेमेंट्स बैंकों के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. ये डेबिट कार्ड, क्रेडिट कार्ड और अन्य प्री-पेड उपकरण जारी कर सकते हैं।
2. इनकी स्थापना नचिकेत मोर समिति की अनुशंसा पर की गई थी।
3. इन्हें सिर्फ 1 लाख रुपए तक ही ऋण देने की अनुमति है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल 1
(b) केवल 2
(b) सभी तीन
(d) कोई भी नहीं

59. थोक मूल्य सूचकांक (WPI) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसे राष्ट्रीय सांख्यिकी कार्यालय (NSO) द्वारा जारी किया जाता है।
2. WPI में खाद्य पदार्थों की तुलना में विनिर्मित वस्तुओं को अधिक महत्त्व दिया जाता है।
3. यह उत्पादक स्तर पर मुद्रास्फीति की निगरानी करता है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल 1
(b) केवल 2
(b) सभी तीन
(d) कोई भी नहीं

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53. With reference to National Housing Bank (NHB), consider the following statements:

1. All-India Housing Price Index (HPI) is released by NHB.
2. It is a wholly owned subsidiary of Reserve Bank of India (RBI).

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

54. "Masala bond" refers to which of the following?

(a) They are a financial term used for diversified investment portfolios.
(b) They are rupee-denominated bonds issued outside India by an Indian entity.
(c) They are a category of Indian government grants for foreign investment.
(d) They are dollar denominated bonds issued in India by any foreign entity to raise equity.

55. With reference to Electoral bonds, consider the following statements:

1. State Bank of India (SBI) is the only authorized issuer of these bonds.
2. All registered political parties are eligible to receive donations through electoral bonds.
3. These bonds carry a validity of 1 year from the date of issuance.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(b) All three *(d)* None

56. With reference to the Prompt Corrective Action (PCA) for Scheduled Commercial Banks, consider the following statements:

1. Capital, Asset Quality and Leverage are the key areas for monitoring in this framework.
2. The PCA Framework would apply to all banks operating in India including foreign bank.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

57. With reference to Ubharte Sitaare Fund, consider the following statements:

1. It is co-sponsored by State bank of India and Export promotion council of India.
2. It's objective is to invest in ventures in manufacturing and service industries looking to enter foreign markets.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

58. With reference to Payment banks, consider the following statements:

1. They can issue debit cards, credit cards and other pre-paid instruments.
2. They were set up on the recommendation of Nachiket Mor committee.
3. They are allowed to give loans, only up to 1 lakh rupees.

How many of the above statements are correct?

(a) Only one
(b) Only two
(b) All three
(d) None

59. With reference to Wholesale Price Index (WPI), consider the following statements:

1. It is released by National Statistical Office (NSO).
2. In WPI, more weightage is given to manufactured goods than food items.
3. It tracks inflation at the producer level.

How many of the above statements are correct?

(a) Only one
(b) Only two
(b) All three
(d) None

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60. निम्नलिखित कथनों पर विचार कीजिये:

1. फसल प्रणालियों की बहुलता भारतीय कृषि की मुख्य विशेषताओं में से एक रही है।
2. फसल विविधीकरण हरित क्रांति के प्रमुख परिणामों में से एक रहा है।
3. भारत में चाय की कृषि व्यापक रूप से बागानी कृषि के रूप में की जाती है।

निम्नलिखित कथनों पर विचार कीजिये:

(a) केवल 1 *(b)* केवल 2
(c) सभी तीन *(d)* कोई भी नहीं

61. कृषि सहायिकी के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. जब बाज़ार मूल्य एक निश्चित सीमा से कम हो जाता हैं तो मूल्य समर्थन सहायिकी मुआवजा प्रदान करके कृषि आय को स्थिर करती है।
2. उर्वरकों पर 'निविष्टि' सहायिकी के रूप में प्रदान की जाने वाली सहायिकी अप्रत्यक्ष सहायिकी के रूप में होती है।
3. विश्व व्यापार संगठन ने केवल प्रत्यक्ष सहायिकी की मात्रा को सीमित किया हैं, अप्रत्यक्ष सहायिकी को नहीं।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

62. निम्नलिखित कथनों पर विचार कीजिये:

कथन-I:

भारत की जी.डी.पी. वृद्धि और कृषि उत्पादन प्रभावशाली रहा है, हालाँकि आबादी के गरीब वर्गों में भुखमरी की स्थिति अभी भी कायम है।

कथन-II:

कृषि उत्पादन में अस्थिरता खाद्य आपूर्ति को प्रभावित करती है जिससे निम्न आय समूहों पर प्रतिकूल प्रभाव पड़ता है।

उपर्युक्त कथनों के बारे में, निम्नलिखित में से कौन-सा एक सही है?

(a) कथन-I और कथन-II दोनों सही हैं तथा कथन-II, कथन-I की सही व्याख्या है।
(b) कथन-I और कथन-II दोनों सही हैं तथा कथन-II, कथन-I की सही व्याख्या नहीं है।
(c) कथन-I सही है किंतु कथन-II गलत है।
(d) कथन-I गलत है किंतु कथन-II सही है।

63. भारत में कृषि के संदर्भ में, प्रभावी आपूर्ति श्रृंखला प्रबंधन को लागू करने का प्राथमिक उद्देश्य क्या है?

(a) कृषि उपज को अधिकतम करना
(b) फसल कटाई के बाद होने वाले नुकसान को कम करना
(c) मोनोक्रॉपिंग को बढ़ावा देना
(d) कृषि सहायिकी का विस्तार

64. निम्नलिखित पर विचार कीजिये:

1. वर्षा आधारित कृषि पर अत्यधिक निर्भरता
2. जलजमाव एवं मृदा लवणता
3. भूजल का अत्यधिक दोहन
4. अत्यधिक सिंचाई के माध्यम से जल की बर्बादी
5. आधुनिक सिंचाई तकनीक की सीमित उपलब्धता

उपर्युक्त में से कितने भारतीय कृषि में सिंचाई से जुड़े महत्त्वपूर्ण मुद्दे हैं?

(a) केवल दो
(b) केवल तीन
(c) केवल चार
(d) सभी पाँच

65. निम्नलिखित कथनों पर विचार कीजिये:

1. ग्रामीण-शहरी प्रवास के कारण कृषि कार्यों के लिये श्रम की कमी खेती के मशीनीकरण के लिये एक मज़बूत मामला बनाती है।
2. कृषि उत्पादकता और दक्षता में कमी कृषि मशीनीकरण की प्रक्रिया का परिणाम है।

उपर्युक्त में से कौन-सा/से सही है/हैं?

(a) केवल 1
(b) केवल 2
(c) 1 और 2 दोनों
(d) न तो 1 और न ही 2

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60. Consider the following statements:

1. Multiplicity of cropping systems has been one of the main features of Indian agriculture.
2. Crop diversification has been one of the key outcomes of the green revolution.
3. Tea cultivation is widely practiced as plantation agriculture in India.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

61. With reference to farm subsidies consider the following statements:

1. Price support subsidies stabilize farm incomes by providing compensation when market prices fall below a certain threshold.
2. The subsidies provided on fertilizers as 'input' subsidies are in the form of indirect subsidies.
3. World Trade Organization has put some ceilings on the amount of direct subsidies only and not on indirect subsidies.

How many of the statements given above are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

62. Consider the following statements:

Statement-I:
India's GDP growth and agricultural production have been impressive, however hunger and starvation still persist among the poorer sections of the population.
Statement-II:
Volatility in agricultural production impacts food supplies which adversely affect the lowest income groups.
Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.
(c) Statement-I is correct but Statement-II is incorrect.
(d) Statement-I is incorrect but Statement-II is correct.

63. In the context of agriculture in India, what is the primary objective of implementing effective supply chain management?

(a) Maximizing farm yields
(b) Minimizing post-harvest losses
(c) Promoting monocropping
(d) Expanding agricultural subsidies

64. Consider the following:

1. Over-reliance on rainfed agriculture
2. Waterlogging and soil salinity
3. Excessive groundwater withdrawal
4. Wastage of water through over irrigation
5. Limited availability of modern irrigation technique

How many of the above are significant issues associated with irrigation in Indian agriculture?

(a) Only two
(b) Only three
(c) Only four
(d) All five

65. Consider the following statements:

1. Shortage of labour for agricultural operations owing to rural-urban migration makes a strong case for mechanisation of farming.
2. Reduced farm productivity and efficiency is a consequence of the process of farm mechanization.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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66. भारत में रासायनिक उर्वरकों के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. वर्तमान में, सरकार रासायनिक उर्वरकों की खुदरा मूल्यों को निर्धारित करती है, न कि यह बाज़ार द्वारा संचालित होता है।
2. अमोनिया यूरिया का एक घटक है, जिसका उत्पादन प्राकृतिक गैस से होता है।
3. तेल रिफाइनरियाँ उपोत्पाद के रूप में सल्फर, जो कि फॉस्फोरिक अम्ल उर्वरक के लिये एक कच्चा माल है, का उत्पादन नहीं कर सकती हैं।

उपर्युक्त में से कितने कथन हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नही

67. निम्नलिखित में से कौन 'कृषि विस्तार सेवाओं' की सर्वोत्तम व्याख्या करता है?

(a) किसानों द्वारा कृषि आदानों की सीधी खरीद।
(b) उर्वरक लागत पर सहायिकी प्रदान करने वाला एक सरकारी कार्यक्रम।
(c) किसानों को कृषि संबंधी नवीन जानकारियाँ प्रदान करना एवं प्रौद्योगिकी से परिचित कराने की प्रक्रिया।
(d) कृषि उत्पादों को दूसरे देशों में निर्यात करने की एक विधि।

68. जलवायु स्मार्ट कृषि के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. फसल की पैदावार को अधिकतम करना।
2. खेती में प्रौद्योगिकी और मशीनरी के उपयोग को न्यूनीकृत करना।
3. आधुनिक नवाचार के बिना पारंपरिक खेती के तरीकों को बढ़ावा देना।
4. जलवायु परिवर्तन के प्रभावों को अनुकूलित और कम करते हुए कृषि उत्पादकता में वृद्धि करना।

उपर्युक्त कथनों में से कितने सही हैं?

(a) केवल एक *(b)* केवल दो
(c) केवल तीन *(d)* सभी चार

69. भारत में महिला किसानों के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. पुरुषों द्वारा गाँव से शहर की ओर प्रवासन में वृद्धि के साथ, कृषि में महिलाओं की भागीदारी में वृद्धि हुई है।
2. महिला किसानों के पास 10% से भी कम परिचालन भूमि का स्वामित्त्व है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

70. निम्नलिखित कथनों पर विचार कीजिये:

कथन-I:

कृषि ऋण (एग्री-क्रेडिट) कृषि उत्पादकता में सुधार के लिये मध्यस्थ कारक है।

कथन-II:

संस्थागत ऋण तक पहुँच किसानों को उत्पादकता बढ़ाने में सक्षम बनाती है।

उपर्युक्त कथनों के बारे में, निम्नलिखित में से कौन-सा एक सही है?

(a) कथन-I और कथन-II दोनों सही हैं तथा कथन-II, कथन-I की सही व्याख्या है।
(b) कथन-I और कथन-II दोनों सही हैं तथा कथन-II, कथन-I की सही व्याख्या नहीं है।
(c) कथन-I सही है किंतु कथन-II गलत है।
(d) कथन-I गलत है किंतु कथन-II सही है।

71. हाल ही में संपन्न 15वें ब्रिक्स शिखर सम्मेलन के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. शिखर सम्मेलन के लिये चुना गया विषय "ब्रिक्स और अफ्रीका: पारस्परिक रूप से त्वरित विकास, सतत् विकास और समावेशी बहुपक्षवाद के लिये साझेदारी" था।
2. ब्रिक्स सदस्य समूह में इंडोनेशिया, जापान और तुर्की जैसे कुछ नए सदस्य देशों को शामिल करने पर सहमत हुए।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

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66. With reference to chemical fertilizers in India, consider the following statements:

1. At present, the retail price of chemical fertilizers is not market-driven and is administered by the Government.
2. Ammonia, which is an input of urea, is produced from natural gas.
3. Sulphur, a raw material for phosphoric acid fertilizer, cannot be a by-product of oil refineries.

How many of the statements given above are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

67. Which of the following best defines 'Agricultural Extension Services'?

(a) Direct purchase of agricultural inputs by farmers.
(b) A government program to subsidize fertilizer costs.
(c) The process of delivering agricultural knowledge and technology to farmers.
(d) A method of exporting agricultural products to other countries.

68. With reference to climate smart agriculture, consider the following statements:

1. Maximizing crop yield at all costs.
2. Minimizing the use of technology and machinery in farming.
3. Promoting traditional farming methods without any modern innovations.
4. Enhancing agricultural productivity while adapting to and mitigating the impacts of climate change.

How many of the statements given above are correct?

(a) Only one *(b)* Only two
(c) Only three *(d)* All four

69. With reference to women farmers in India, consider the following statements:

1. With growing rural to urban migration by men, there is feminisation of agriculture sector.
2. Less than 10 % of operation landholdings is owned by women farmers.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

70. Consider the following statements:

Statement-I:
Agricredit is a mediating input for agriculture to improve productivity.
Statement-II:
Access to institutional credit enables the farmer to enhance productivity.
Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I.
(c) Statement-I is correct but Statement-II is incorrect.
(d) Statement-I is incorrect but Statement-II is correct.

71. With reference to the recently concluded 15th BRICS summit consider the following statements:

1. "BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development, and Inclusive Multilateralism" was the chosen theme for the summit.
2. Its members agreed to induct some new member countries like Indonesia, Japan and Turkey into the grouping.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

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72. "सिक्का ढलाई मुनाफा" के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. सिक्का ढलाई मुनाफा मुद्रा के अंकित मूल्य तथा उत्पादन लागत के बीच का अंतर है।
2. यदि सिक्का ढलाई मुनाफा धनात्मक है तो सरकार को घाटा होगा।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

73. अर्थव्यवस्था पर मुद्रास्फीति के प्रभावों के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. मुद्रास्फीति लेनदारों से देनदारों को धन का पुनर्वितरण करती है।
2. बढ़ती मुद्रास्फीति सदैव बढ़ती समग्र मांग तथा उपभोक्ताओं के बीच उच्च क्रय क्षमता का संकेत देती है।
3. इससे पारिश्रमिक के वास्तविक मूल्य में वृद्धि हो जाती है, जबकि उनके सांकेतिक मूल्य में कमी आती है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

74. पूंजी खाता परिवर्तनीयता निम्नलिखित में से किसकी सर्वोत्तम व्याख्या करता है?

(a) यह किसी भी उद्देश्य के लिये देश के अंदर और बाहर पूंजी की अप्रतिबंधित और मुक्त आवाजाही की अनुमति देता है।
(b) यह रुपए को अन्य मुद्राओं के साथ स्वतंत्र विनिमय की अनुमति देता है।
(c) यह देश में विदेशी निवेश को प्रतिबंधित करते हुए पूंजी प्रवाह पर सख्त नियम लागू करता है।
(d) यह केवल सरकार द्वारा अनुमोदित परियोजनाओं और पहलों के लिये पूंजी प्रवाह की अनुमति देता है।

75. निम्नलिखित कथनों पर विचार कीजिये:

1. ट्रेजरी बिल शून्य कूपन प्रतिभूतियाँ हैं और उन पर कोई ब्याज नहीं लगता है।
2. वाणिज्यिक पत्र एक असुरक्षित वचन पत्र है और इसका उपयोग उच्च श्रेणी के कॉर्पोरेट ऋणकर्त्ताओं द्वारा किया जाता है।
3. कॉल मनी मार्केट इंटरबैंक मनी मार्केट है जहाँ से अधिकतम 30 दिनों की अवधि के लिये ऋण लिया जा सकता है।

उपर्युक्त कथनों में से कितने सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नही

76. गोल्डन हैण्डकफ निम्नलिखित में से किसको सर्वोत्तम रूप से संदर्भित करती है?

(a) किसी कंपनी द्वारा कर्मचारियों को कंपनी में बनाए रखने के लिये रॉयल्टी भुगतान।
(b) किसी कंपनी द्वारा कर्मचारियों को उनकी सेवा से पहले नौकरी छोड़ने के लिये किया गया भुगतान।
(c) किसी कंपनी द्वारा नए कर्मचारियों को अपनी ओर आकर्षित करने के लिये दी गई बड़ी रकम।
(d) संतुलित बजट की दिशा में एक प्रयास।

77. लाफर वक्र के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. लाफर वक्र मुद्रास्फीति और बेरोज़गारी के बीच संबंध को दर्शाता है।
2. लाफर थीम को ग्राफ में अंकन करने से एक व्युत्क्रमित यू-आकार का वक्र प्राप्त होता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

78. निम्नलिखित कथनों पर विचार कीजिये:

1. पूर्ण प्रतिस्पर्द्धी बाज़ार में कंपनियाँ मूल्य स्वीकार करने वाली होती हैं।
2. एकक्रेता बाज़ार (मोनोप्सनी) एक ऐसा बाज़ार है जिसमें मूल्यों को नीचे लाने के लिये एकल खरीदार के पास मांग का महत्त्वपूर्ण भाग होता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1
(b) केवल 2
(c) 1 और 2 दोनों
(d) न तो 1 और न ही 2

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72. With reference to seigniorage, consider the following statements:

1. Seigniorage is the difference between the face value of money and what it costs to produce it.
2. If the seigniorage is positive, the government will make a loss.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

73. With reference to the effects of inflation on the economy, consider the following statements:

1. Inflation redistributes wealth from creditors to debtors.
2. Rising inflation always indicates rising aggregate demand and higher purchasing capacity among consumers.
3. It increases the real value of wages, while their nominal value falls.

How many of the above statements are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

74. Capital account convertibility best describes which of the following?

(a) It allows unrestricted and free movement of capital in and out of the country for all purposes.
(b) It freely permits conversion of rupees to other currencies.
(c) It imposes strict regulations on the movement of capital, restricting foreign investments in the country.
(d) It only allows the movement of capital for government-approved projects and initiatives.

75. Consider the following statements:

1. Treasury bills are zero coupon securities and pay no interest.
2. Commercial paper is an unsecured promissory note and is used by highly rated corporate borrowers.
3. Call money market is interbank money market where funds can be borrowed for maximum period up to 30 days.

How many of the statements given above are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

76. Golden handcuff best refers to which one of the following?

(a) Royalty payment by a company to employees to keep them with the company.
(b) A payment made by a company to employees for quitting the job prior to their service.
(c) A large sum paid by a company to attract a new staff to its fold.
(d) An attempt towards balanced budgeting.

77. With reference to Laffer curve, consider the following statements:

1. The Laffer Curve shows the relationship between inflation and unemployment.
2. Plotting the Laffer theme into a graph gives an inverted U-shaped curve.

Which of the statements given above is /are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

78. Consider the following statements:

1. In a perfectly competitive market, firms are price-takers.
2. A monopsony is a market in which a single buyer has a significant share of demand to drive prices down.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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79. विश्व बैंक समूह के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. अंतर्राष्ट्रीय विकास एजेंसी (IDA) अविकसित देशों को कम ब्याज पर ऋण प्रदान करती है।
2. अंतर्राष्ट्रीय पुनर्निर्माण एवं विकास बैंक (IBRD) ने मध्यम आय वाले देशों को ब्याज मुक्त ऋण प्रदान किया।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

80. न्यू डेवलपमेंट बैंक के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसे फोर्टालेजा घोषणा द्वारा बनाया गया था।
2. केवल पाँच ब्रिक्स देश ही बैंक के भागीदार हो सकते हैं।
3. इसमें 100 अरब डॉलर की अनुषंगी आरक्षित निधि की व्यवस्था है।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

81. एशियाई अवसंरचना निवेश बैंक (AIIB) के संदर्भ में निम्नलिखित कथनों पर विचार कीजिये:

1. भारत बुनियादी ढाँचा परियोजनाओं के लिये AIIB वित्तपोषण का सबसे बड़ा लाभार्थी है।
2. भारत इस बैंक का सबसे बड़ा शेयरधारक है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

82. विश्व व्यापार संगठन (WTO) में संपन्न मत्स्य पालन सहायिकी पर समझौते के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. समझौते के तहत तटीय शिपिंग के लिये प्रदान की जाने वाली सहायिकी निषिद्ध है।
2. इसने अवैध, असूचित और अनियमित (IUU) मत्स्य ग्रहण के लिये सहायिकी प्रदान करने पर रोक लगा दी।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

83. निम्नलिखित में से कौन-सी स्थिति भारतीय अर्थव्यवस्था के संदर्भ में 'दोहरे तुलन पत्र की समस्या' को सर्वोत्तम रूप से प्रतिबिंबित करती है?

(a) वित्तीय संकट जिसमें किसी अर्थव्यवस्था का बैंकिंग क्षेत्र और कॉर्पोरेट क्षेत्र दोनों ही ऋण के उच्च स्तर के कारण तनाव में होते हैं।
(b) कॉरपोरेट तुलन पत्र का मुद्दा जिसमें किसी कंपनी की संपत्ति और देनदारी में कुप्रबंधन होता है।
(c) वह स्थिति जब उपभोक्ता मूल्य सूचकांक और खुदरा मूल्य में काफी वृद्धि हो जाती है।
(d) वित्तीय स्थिति जिसमें सरकार के पास अदायगी संतुलन का संकट है और अर्थव्यवस्था भारी मुद्रास्फीति का सामना कर रही है।

84. नैनोमीसल्स के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इनका उपयोग मुख्य रूप से झिल्ली प्रोटीन के विलयन के रूप में किया जाता है।
2. वे आमतौर पर पृष्ठ संक्रियक अणुओं के माध्यम से बनाये जाते हैं।
3. वे उभयरागी होते हैं, अर्थात् इसका बाह्य आवरण जलविरागी और आंतरिक भाग जलरागी होता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 3
(c) केवल 1 और 2 *(d)* केवल 2 और 3

85. कृषि रसायन के संदर्भ में निम्नलिखित कथनों पर विचार कीजिये:

1. भारत में कीटनाशकों को कीटनाशी अधिनियम, 1968 के माध्यम से विनियमित किया जाता है।
2. उर्वरक निर्माताओं को सरकार के अधिकतम खुदरा मूल्य (MRP) पर उत्पाद बेचना आवश्यक है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

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79. Consider the following statements with reference to World Bank group:

1. The International Development Agency (IDA) provides credit with small interest to the underdeveloped countries.
2. The International Bank for Reconstruction and Development (IBRD) provides interest free loans to middle income countries.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

80. Consider the following statements with reference to New Development Bank:

1. It was created by the Fortaleza Declaration.
2. Only five BRICS countries can be the partner of the bank.
3. There is a contingent reserve arrangement of $100 billion.

How many of the statements given above are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

81. Consider the following statements with reference to Asian Infrastructure Investment Bank (AIIB):

1. India is the largest beneficiary of AIIB financing for infrastructure projects.
2. India is the largest shareholder in the bank.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

82. Consider the following statements with reference to Agreement on Fisheries Subsidies concluded at the World Trade Organization (WTO):

1. The subsidies provided for coastal shipping are prohibited under the agreement.
2. It prohibited subsidies from being provided for Illegal, Unreported and Unregulated (IUU) fishing.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

83. Which of the following situation best reflects 'Twin Balance Sheet Crisis' in terms of Indian economy?

(a) Financial crisis in which both the banking sector and the corporate sector of an economy are under stress due to high levels of debt.
(b) Corporate balance sheet issue in which a company has mismanagement in asset and liability.
(c) Situation when consumer price index and retail price increase substantially.
(d) Financial situation in which the government has balance of payment crisis and economy is experiencing huge inflation.

84. Consider the following statements with reference to nanomicelles:

1. They are used primarily as solutions for membrane proteins.
2. They are usually made through surfactant molecules.
3. They are amphiphilic, i.e., have a hydrophobic outer shell and a hydrophilic interior.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 3 only
(c) 1 and 2 only *(d)* 2 and 3 only

85. With reference to Agrochemicals, consider the following statements:

1. Pesticides are regulated in India through the Insecticides Act, 1968.
2. Fertilizer manufacturers are required to sell the product at the government's Maximum Retail Price (MRP).

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

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86. निम्नलिखित कथनों पर विचार कीजिये:

1. जीनोम एक जीव के डी.एन.ए. का संपूर्ण समुच्चय है।
2. सर्व-जीनोम एक प्रजाति के भीतर जीन के संपूर्ण समुच्चय का प्रतिनिधित्व करता है।
3. किसी प्रजाति के मूल जीनोम में सभी उपभेदों द्वारा साझा किये गए जीन होते हैं।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक *(b)* केवल दो
(c) सभी तीन *(d)* कोई भी नहीं

87. निम्न पर विचार कीजिये:

1. यू.एन.-प्लास्टिक कलेक्टिव (UPC) संयुक्त राष्ट्र पर्यावरण कार्यक्रम-भारत और विश्व आर्थिक मंच (WEF) द्वारा शुरू की गई एक स्वैच्छिक पहल है।
2. संगठन हमारे ग्रह के पारिस्थितिक और सामाजिक स्वास्थ्य पर प्लास्टिक जनित दुष्प्रभावों को कम करने का प्रयास करता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

88. निम्न पर विचार कीजिये:

1. विसंक्रामी को सजीव ऊतकों जैसे घाव, चोट, व्रण (अल्सर) और रोगग्रस्त त्वचा की सतह पर लगाया जाता है।
2. पूतिरोधियों का प्रयोग निर्जीव वस्तुओं जैसे-फर्श, नालियों और यंत्रों इत्यादि पर किया जाता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

89. निम्नलिखित कथनों पर विचार कीजिये:

1. सूर्य के अंदर, नाभिकीय विखंडन अभिक्रियाएँ बहुत उच्च तापमान और भारी गुरुत्वाकर्षण दाब पर होती हैं।
2. नाभिकीय रिएक्टर के अंदर, परमाणु में अस्थिर इलेक्ट्रॉनों की उपस्थिति से नाभिकीय विखंडन होता है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

90. सोमैटिक सेल न्यूक्लियर ट्रांसफर (SCNT) तकनीक के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह एक क्लोनिंग तकनीक है जिसका उपयोग आनुवंशिक रूप से समान जीव बनाने के लिये किया जाता है।
2. कायिक कोशिका का केंद्रक एक अंडाणु कोशिका में स्थानांतरित हो जाता है जिसका केंद्रक SCNT के दौरान अलग कर दिया जाता है।
3. इसका उपयोग मुख्य रूप से जानवरों की क्लोनिंग के लिये किया गया है और यह किसी भी चिकित्सा या चिकित्सीय अनुप्रयोगों में कार्यान्वित नहीं है।
4. डॉली भेड़, पहला क्लोन स्तनपायी, SCNT तकनीक का उपयोग करके बनाया गया था।

उपर्युक्त में से कितने कथन सही हैं?

(a) केवल एक
(b) केवल दो
(c) केवल तीन
(d) सभी चार

91. रेडी-टू-यूज उपचारात्मक भोजन (RUTF) के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. यह वयस्कों के समग्र स्वास्थ्य को बढ़ावा देने के लिये नियमित आहार में उपयोग किया जाने वाला एक निवारक पोषण पूरक है।
2. यह एक विशेष खाद्य उत्पाद है जिसे मुख्य रूप से बच्चों में गंभीर तीव्र कुपोषण के उपचार के लिये अभिकल्पित किया गया है।
3. यह आमतौर पर चूर्ण (पाउडर) के रूप में उपलब्ध कराया जाता है, जिसे उपभोग से पहले पानी या दूध के साथ पुनर्गठित करने की आवश्यकता होती है।
4. मूंगफली आधारित RUTF कुपोषण के उपचार के लिये चिकित्सीय भोजन के तौर पर व्यापक रूप से इस्तेमाल किया जाने वाला प्रभावी रूप है।

उपर्युक्त कथनों में से कितने सही हैं?

(a) केवल एक
(b) केवल दो
(c) केवल तीन
(d) सभी चार

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86. Consider the following statements:

1. A genome is an organism's complete set of DNA.
2. Pan-genome represents the entire set of genes within a species.
3. Core genome of a species consists of genes shared by all strains.

How many of the statements given above are correct?

(a) Only one *(b)* Only two
(c) All three *(d)* None

87. Consider the following:

1. Un-Plastic Collective (UPC) is a voluntary initiative launched by the United Nations Environment Program-India and World Economic Forum (WEF).
2. The collective seeks to minimise externalities of plastics on the ecological and social health of our planet.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

88. Consider the following:

1. Disinfectants are applied to the living tissues such as wounds, cuts, ulcers and diseased skin surfaces.
2. Antiseptics are applied to inanimate objects such as floors, drainage system, instruments, etc.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

89. Consider the following statements:

1. Inside the sun, nuclear fission reactions take place at very high temperatures and enormous gravitational pressures.
2. Inside the nuclear reactor, nuclear fission occurs due to the presence of unstable electrons in the atom.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

90. With reference to Somatic Cell Nuclear Transfer (SCNT) technology, consider the following statements:

1. It is a cloning technique used to create genetically identical organisms.
2. The nucleus of a somatic cell is transferred into an egg cell that has had its nucleus removed during SCNT.
3. It has been primarily used for cloning animals and is not applicable in any medical or therapeutic applications.
4. Dolly the sheep, the first cloned mammal, was created using SCNT technology.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) Only three
(d) All four

91. With reference to Ready-to-Use Therapeutic Food (RUTF), consider the following statements:

1. It is a preventive nutritional supplement used in routine diets to boost the overall health of adults.
2. It is a specialized food product designed to treat severe acute malnutrition, primarily in children.
3. It is typically provided in a powdered form, which requires reconstitution with water or milk before consumption.
4. Peanut-based RUTF is a widely used and effective form of therapeutic food for treating malnutrition.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) Only three
(d) All four

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92. जैवसंचार के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. इसमें पशु जानकारी देने के लिये स्वर और स्पर्श संकेतों सहित विभिन्न संवेदी माध्यमों का उपयोग करते हैं।
2. यह पूरी तरह से एक मानवीय घटना है, जिसमें जटिल भाषा और लिखित संचार शामिल है।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1
(b) केवल 2
(c) 1 और 2 दोनों
(d) न तो 1 और न ही 2

93. निम्न पर विचार कीजिये:

1. आभासी वास्तविकता गेमिंग
2. टेलीमेडिसिन
3. अंतरिक्ष अन्वेषण
4. वित्त सेवाएँ

उपर्युक्त में से कितने मेटावर्स के अनुप्रयोग हो सकते हैं?

(a) केवल एक
(b) केवल दो
(c) केवल तीन
(d) सभी चार

94. कोविड-19 वायरस के नैदानिक परीक्षणों के संदर्भ में निम्नलिखित कथनों पर विचार कीजिये:

1. आणविक परीक्षण वायरस की आनुवंशिक सामग्री का पता लगाते हैं और अत्यधिक सटीक माने जाते हैं लेकिन परिणाम देने में अधिक समय लग सकता है।
2. प्रतिजन परीक्षण किसी व्यक्ति के रुधिर में प्रतिजनों की उपस्थिति की पहचान करते हैं, जो निदान का एक त्वरित और कुशल साधन प्रदान करते हैं।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1
(b) केवल 2
(c) 1 और 2 दोनों
(d) न तो 1 और न ही 2

95. निम्नलिखित कथनों पर विचार कीजिये:

1. सरफेस वेब में ऐसी वेबसाइटें और वेब पेज शामिल होते हैं जो सर्च इंजन द्वारा अनुक्रमित होते हैं तथा आम जनता के लिये आसानी से उपलब्ध होते हैं।
2. डार्क वेब में ऐसी सामग्री शामिल है जो सर्च इंजन द्वारा अनुक्रमित नहीं है और इसके लिये विशिष्ट पहुँच विधियों की आवश्यकता हो सकती है।

उपर्युक्त कथनों में से कौन-सा सही है?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

96. निम्नलिखित कथनों पर विचार कीजिये:

1. बड़े पैमाने पर निर्माण परियोजनाओं के लिये निर्माण उद्योग में नैनोकणों का व्यापक रूप से उपयोग किया जाता है।
2. संवाहक से संबंधित नैनोकण बड़े पैमाने की सामग्रियों की तुलना में स्वास्थ्य या पर्यावरण के लिये अधिक खतरा उत्पन्न करते हैं।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?

(a) केवल 1 *(b)* केवल 2
(c) 1 और 2 दोनों *(d)* न तो 1 और न ही 2

97. जीनोम अनुक्रमण के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिये:

1. संपूर्ण जीनोम अनुक्रमण का उपयोग मुख्य रूप से जीनोम के भीतर एक जीन की पहचान करने के लिये किया जाता है।
2. नेक्स्ट-जेनेरेशन सीक्वेंसिंग (NGS) एक प्रकार की जीनोमिक सीक्वेंसिंग तकनीक है।
3. जीनोम इंडिया प्रोजेक्ट (GIP) भारतीय आबादी को प्रभावित करने वाली बीमारियों की प्रकृति को समझने में सहायता के लिये एक जीनोम अनुक्रमण परियोजना है।

उपर्युक्त कथनों में से कौन-सा सही है?

(a) केवल 1 और 2
(b) केवल 2 और 3
(c) केवल 1 और 3
(d) 1, 2 और 3

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92. With reference to biocommunication, consider the following statements:

1. In this, animals use a variety of sensory channels, including olfactory, and tactile signals to convey information.
2. It is solely a human phenomenon, involving complex language and written communication.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

93. Consider the following:

1. Virtual reality gaming
2. Telemedicine
3. Space exploration
4. Finance services

How many of the above can be the applications of metaverse?

(a) Only one
(b) Only two
(c) Only three
(d) All four

94. With reference to diagnostic tests of COVID-19 virus, consider the following statements:

1. Molecular tests detect the genetic material of the virus and are considered highly accurate but may take longer to provide results.
2. Antigen tests identify the presence of antibodies in an individual's blood, offering a rapid and efficient means of diagnosis.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

95. Consider the following statements:

1. The Surface Web consists of websites and web pages that are indexed by search engines and are easily accessible to the general public.
2. The Dark Web includes content that is not indexed by search engines and may require specific access methods.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

96. Consider the following statements:

1. Nanoparticles are widely used in the construction industry for large-scale building projects.
2. Nanoparticles fixed to the carrier pose a greater risk for health or the environment than the larger scale materials.

Which of the statements given above is/are correct?

(a) 1 only *(b)* 2 only
(c) Both 1 and 2 *(d)* Neither 1 nor 2

97. With reference to Genome Sequencing, consider the following statements:

1. Whole genome sequencing is primarily used for identifying a single gene within the genome.
2. Next-Generation Sequencing (NGS) is a type of genomic sequencing technique.
3. Genome India Project (GIP) is a genome sequencing project to aid our understanding of the nature of diseases affecting the Indian population.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

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98. निम्नलिखित में से कौन-सा 'एज कंप्यूटिंग' का सर्वोत्तम वर्णन करता है?

(a) यह स्रोत के निकट डेटा को संसाधित करने के लिये क्वांटम सिद्धांतों पर निर्भर करता है।

(b) इसमें दूरस्थ डेटा केंद्रों में केंद्रीकृत डेटा प्रसंस्करण शामिल है।

(c) यह कम विलंबता के लिये डेटा प्रसंस्करण को उपकरणों या डेटा स्रोतों के करीब लाता है।

(d) यह मुख्य रूप से क्लाउड-आधारित डेटा संग्रहण पर निर्भर करता है।

99. निम्न पर विचार कीजिये:

1. शॉर्ट रेंज कनेक्टिविटी
2. एकल स्पर्श अंतरण
3. डेटा के बड़े पेलोड का साझाकरण
4. उपकरणों का हस्तचालित युग्मन

उपर्युक्त में से कितने नियर फील्ड कम्युनिकेशन (NFC) तकनीक की विशेषताएँ हैं?

(a) केवल 1 *(b)* केवल 2

(c) केवल 3 *(d)* सभी चार

100. निम्न पर विचार कीजिये:

1. चिकित्सा उपकरणों को निष्कीटित करना
2. चिकित्सा में अनुरेखक के रूप में उपयोग करना
3. रेडियोथेरेपी
4. संचार

उपर्युक्त में से कितने अनुप्रयोग गामा किरणों द्वारा किये जाते हैं?

(a) केवल 1

(b) केवल 2

(c) केवल 3

(d) सभी चार

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98. Which of the following best describes 'Edge Computing'?

(a) It relies on quantum principles to process data near the source.

(b) It involves centralized data processing in remote data centres.

(c) It brings data processing closer to devices or data sources for reduced latency.

(d) It primarily relies on cloud-based data storage.

99. Consider the following:

1. Short range connectivity
2. Single touch transfer
3. Shares large payloads of data
4. Manual pairing of devices

How many of the above are the features of the Near Field Communication (NFC) technology?

(a) Only one *(b)* Only two

(c) Only three *(d)* All four

100. Consider the following:

1. Sterilize medical equipment
2. Used as tracers in medicine
3. Radiotherapy
4. Communication

How many of the above applications are performed by Gamma rays?

(a) Only one

(b) Only two

(c) Only three

(d) All four

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CIVIL SERVICES (PRELIMINARY) TEST SERIES – 2024

TEST BOOKLET SERIES

Test Code: P1/P3-2409

(English Version)

ANSWER & EXPLANATION
GENERAL STUDIES
TEST – 09

A

ANSWERS

Q. No.	Answers	Q. No.	Answers	Q. No.	Answers	Q. No.	Answers
1	(b)	26	(c)	51	(b)	76	(a)
2	(b)	27	(a)	52	(b)	77	(b)
3	(a)	28	(c)	53	(d)	78	(c)
4	(b)	29	(c)	54	(b)	79	(d)
5	(d)	30	(a)	55	(a)	80	(b)
6	(a)	31	(b)	56	(c)	81	(a)
7	(c)	32	(c)	57	(b)	82	(b)
8	(a)	33	(a)	58	(a)	83	(a)
9	(c)	34	(c)	59	(b)	84	(c)
10	(a)	35	(a)	60	(b)	85	(c)
11	(a)	36	(b)	61	(b)	86	(c)
12	(d)	37	(b)	62	(b)	87	(b)
13	(b)	38	(d)	63	(b)	88	(d)
14	(b)	39	(b)	64	(d)	89	(d)
15	(b)	40	(d)	65	(a)	90	(c)
16	(c)	41	(a)	66	(b)	91	(b)
17	(b)	42	(a)	67	(c)	92	(a)
18	(a)	43	(c)	68	(a)	93	(d)
19	(c)	44	(b)	69	(a)	94	(a)
20	(a)	45	(c)	70	(b)	95	(c)
21	(d)	46	(a)	71	(a)	96	(d)
22	(a)	47	(c)	72	(a)	97	(b)
23	(c)	48	(c)	73	(a)	98	(c)
24	(c)	49	(a)	74	(b)	99	(b)
25	(c)	50	(c)	75	(b)	100	(c)

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1. (b)

Explanation:

- **CAR T-cell therapies** are a major breakthrough in **cancer treatment.** Unlike chemotherapy or immunotherapy which involve taking drugs, CAR T-cell therapies use a patient's own cells. They are modified in the laboratory to activate T-cells and target tumor cells.
- **CAR T-cell therapy has been approved for leukaemia** (cancers arising from the cells that produce white blood cells) and lymphomas (arising from the lymphatic system).
- T cells are taken from a patient's blood and then the gene for a special receptor that binds to a certain protein on the patient's cancer cells is added to the **T cells in the laboratory.**
- **The special receptor** is called a **chimeric antigen receptor (CAR).** Large numbers of the CAR T- cells are grown in the laboratory and given to the patient by infusion.
- CAR T-cell therapies are even more specific than targeted agents and directly stimulate the patient's immune system to fight cancer, leading to greater clinical efficacy. That's why they're referred to as **"living drugs." Hence, option (b) is correct.**

2. (b)

Explanation:

- The **'Kessler syndrome'** is associated with space debris collision named after **Donald J. Kessler,** a retired NASA scientist.
- The Kessler syndrome is a **theoretical scenario in which the density of objects in Low Earth Orbit (LEO) is so high** that collisions between objects could cause a cascade of collisions, generating even more debris and posing a significant threat to operational satellites and future space missions.
- This phenomenon is primarily related to space debris and its potential to create a self-perpetuating, hazardous environment in space. It is not related to climate change, financial markets, or tropical disease outbreaks. **Hence, option (b) is correct.**

3. (a)

Explanation:

- **"Cry1ac"** and **"Cry2ab"** refer to specific proteins derived from the **bacterium Bacillus thuringiensis (Bt).** These proteins are used in agricultural biotechnology, specifically in **genetically modified (GM) crops.**
- These proteins are incorporated into the **DNA of certain crop plants to produce Bt crops.** Bt crops are engineered to express the Bt proteins, which are toxic to certain insect pests. When the pests feed on these crops, the proteins disrupt their digestive systems and kill them. **Hence, option (a) is correct.**
- This technology is an important tool in agricultural biotechnology because it allows for the cultivation of crops with built-in resistance to insect pests, reducing the need for chemical pesticides. It can **increase crop yields** and reduce the environmental impact of farming.
- Indian farmers started cultivating **Bt cotton,** a pest-resistant, genetically modified version of cotton. Bt modification is a type of genetic modification where the Bt gene is obtained from the soil bacterium **Bacillus Thuringiensis.** It is the **only approved genetically modified** crop in India.

4. (b)

Explanation:

- **Compulsory licensing** is when a government allows someone else to produce a patented product or process without the consent of the patent owner or plans to use the patent-protected invention itself. **Hence, statement (1) is correct.**
- It is one of the flexibilities in the field of patent protection included in the WTO's agreement on intellectual property — the TRIPS (Trade-Related Aspects of Intellectual Property Rights) Agreement**. Hence, statement (2) is correct.**
- For compulsory licensing, it's when the **generic copy** is produced mainly for the domestic market, not for export.
- The **TRIPS Agreement does not specifically list the reasons** that might be used to justify compulsory licensing. However, the Doha Declaration on TRIPS and Public Health confirms that countries are free to determine the grounds for granting compulsory licenses, and to determine what constitutes a national emergency. **Hence, statement (3) is NOT correct.**

5. (d)

Explanation:

- According to the **theory of relativity,** specifically **Einstein's theory of special relativity,** time is **relative** and can pass at different rates for observers in different states of motion.

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- This means that the perception of time can vary depending on the relative motion of the observer, and it does not work the same everywhere in the universe according to the principles of special relativity. **Hence, statement (1) is NOT correct.**
- The light always travels in a straight line but it can change its direction. Light can change its direction when it encounters different materials or media with varying refractive indices.
- This **phenomenon is called refraction,** and it's a fundamental principle in optics. So, light does not always travel in a straight line, and its path can be altered when it interacts with different substances. **Hence, statement (2) is NOT correct.**

6. (a)

Explanation:

- **One Health** is an approach that recognizes that the health of people is **closely connected** to the health of animals and our shared environment. **Hence, option (a) is correct.**
- One Health vision derives its blueprint from the agreement between the tripartite-plus alliance comprising the **Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE).**
- It's purpose is to encourage collaborations in research and sharing of knowledge at multiple levels across various disciplines like human health, animal health, plants, soil, environmental and ecosystem health in ways that improve, protect and defend the health of all species.
- The **Covid-19 pandemic** showed the relevance of **'One Health' principles** in the governance of infectious diseases, especially efforts to prevent and contain zoonotic diseases throughout the world.

7. (c)

Explanation:

- **Quantum key distribution (QKD),** also called **Quantum Cryptography,** is a mechanism to develop secure communication.
- It provides a way of distributing and sharing secret keys that are necessary for cryptographic protocols. In the QKD, encryption keys are sent as 'qubits' (or quantum bits) in an **optical fibre. Hence, statement (1) is correct.**
- Optical fibres are capable of transmitting more data over longer distances and faster than other mediums. It works on the principle of **Total Internal Reflection.**
- QKD is essential to address the threat that rapid advancement in Quantum Computing poses to the security of the data being transported by various critical sectors through the current communication networks.
- **Following are the benefits of QKD:**
  - It allows the **detection of data leaks or hacking** because it can detect any such attempt. It also allows the process of setting the error level between the intercepted data.
  - The **encryption is unbreakable** and that's mainly because of the way data is carried via the photon. A photon cannot be perfectly copied and any attempt to measure it will disturb it. This means that a person trying to intercept the data will leave a trace. **Hence, statement (2) is correct.**

8. (a)

Explanation:

- Bose-Einstein Condensate (BEC) is **not the 5th natural state of matter;** it is the 5th state of matter, but it is distinct from the traditional/natural solid, liquid, gas, and plasma states. **Hence, statement (1) is NOT correct.**
- BEC is formed at **extremely low temperatures,** very close to absolute zero (around –273 degrees Celsius or –460 degrees Fahrenheit). It is created by cooling a gas of certain atoms or molecules to temperatures where quantum effects become dominant. **Hence, statement (2) is NOT correct.**
- Bose-Einstein Condensate does indeed exhibit properties of a **superfluid,** including the ability to flow without friction and the ability to form quantized vortices. **Hence, statement (3) is correct.**

9. (c)

Explanation:

- **Iron dome defence system** belongs to **Israel**. It is a **short-range, ground-to-air, air defence system** that includes a radar and Tamir interceptor missiles that track and neutralise any rockets or missiles aimed at Israeli targets. **Hence, option (c) is correct.**
- It is used for countering rockets, artillery & mortars as well as aircraft, helicopters and Unmanned Aerial Vehicles (UAV).

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- It is capable of being used in all weather conditions, including day and night. It was developed by the state-run Rafael Advanced Defense Systems and Israel Aerospace Industries and was deployed in 2011.
- Rafael claims a success rate of over 90%, with **more than 2,000 interceptions,** however experts agree the success rate is over 80%.
- It can protect deployed and manoeuvring forces, as well as the Forward Operating Base (FOB) and urban areas, against a wide range of indirect and aerial threats.

10. (a)

Explanation:

- **Science and Engineering Research Board (SERB)** has launched a scheme called **Accelerate Vigyan (AV)** to strengthen scientific research mechanisms in the country. **Hence, statement (1) is correct.**
- It strives to provide a big push to **high-end scientific research and prepare scientific manpower** which can venture into research careers and knowledge-based economy.
- Mission Samoohan marks beginning of AV.
- Mission ABHYAAS is an attempt to boost research and development in the country.
- Recognizing that **all research has at its base as development of quality,** well-trained researchers; AV will initiate and strengthen mechanisms of identifying research potential, mentoring, training and hands-on workshops, on a broad-based national scale.
- This scheme is **primarily to focus on young potential researchers** with an aim to give an opportunity to them to spend quality time in the pre-identified premier institution, labs / organizations and empower them through best practices and environment, so that they acquire the requisite skills and vision for undertaking future research assignments requiring high standards.
- This will be achieved through two modes of learning, that is high end workshops & Training and Skill Internship. Its primary goal is **not related to rural women. Hence, statement (2) is NOT correct.**

11. (a)

Explanation:

- **OSIRIS-REx** is the **first U.S. mission** to collect a sample from an asteroid. It returned to Earth on Sept. 24, 2023, to drop off material from asteroid **Bennu. Hence, statement (1) is correct.**
- The spacecraft didn't land, but continued to a new mission to explore **asteroid Apophis.**
- Meanwhile, scientists hope the pristine samples it dropped into the Utah desert offer clues to whether asteroids colliding with Earth billions of years ago brought water and other key ingredients for life.
- This mission will help scientists investigate how planets formed and how life began, as well as improve our understanding of asteroids that could impact Earth.
- **Hayabusa2** is a Japanese spacecraft that explored **asteroid Ryugu (162173)** from June 2018 to November 2019. **Hence, statement (2) is NOT correct.**

12. (d)

Explanation:

- **Vikrant** (which means courageous) is **named after India's first aircraft carrier,** bought from the UK and commissioned in 1961.
- The **first INS Vikrant** was a major symbol of national pride and played an important role in several military operations including the **1971 Indo-Pak War** before being decommissioned in 1997. Now India's first homemade aircraft carrier will carry the name of her illustrious predecessor. **Hence, option (d) is correct.**
- After its induction, the warship will be a key component of the Indian Navy's push to establish itself as a blue water force, one with the ability to project its power on distant seas.
- It is especially important amid India's bid to be a net security provider in the Indian Ocean region where it faces China, whose navy is focused on aircraft carriers and has already inducted two vessels.
- With the commissioning of INS Vikrant, India will have **two operational aircraft carriers** (the other one is **INS Vikramaditya**), which will bolster the maritime security of the nation.

13. (b)

Explanation:

GRAPHENE-AURORA PROGRAM

- The **Ministry of Electronics & Information Technology (MeitY)** launched the 'Graphene-Aurora program'. **Hence, statement (1) is NOT correct.**
- Implementation: **Digital University Kerala** with joint funding from **MeitY and Kerala government** and industry partner.

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- Aim is to bridge the gap between graphene research and commercialization. **Hence, statement (2) is correct.**
- **About Graphene**
  - Graphene is a single layer of carbon atoms arranged in **a hexagonal lattice,** forming a **two-dimensional structure** discovered in 2004.
  - **Properties:** ultimately thin, mechanically very strong, transparent, and flexible.
  - **Application:** can be used in touch screens, light panels, solar cells, faster DNA sequencing, drug delivery, etc.

14. (b)

Explanation:

- Indian researchers developed the first ever low pungent mustard using **Genome Editing (GE).**
- New mustard variety is less pungent as it has lesser quantity of glucosinolate at par with the Canola quality limit (30 parts per million or PPM dry weight).
  - Glucosinolates is a group of **sulphur and nitrogen** containing compounds contributing giving characteristic pungency to mustard products. **Hence, statement (1) is NOT correct.**
  - It protects plants from invading pathogens, animals, etc. **Hence, statement (2) is correct.**
  - However, high glucosinolates make it unpalatable, and causes goiter and internal organ abnormalities in livestock. **Hence, statement (3) is correct.**
  - Indian mustard (Brassica juncea) contains 120-130 ppm of glucosinolates.
- It is produced through gene editing of **'Varuna',** a high yielding Indian mustard variety, using **CRISPR/Cas9 gene editing t**echnology.
- Unlike GMOs, Gene Editing incorporates modification of existing genetic material to improve the quality.
- Genetically modified organisms (GMO) have **transgene** (foreign genes) for improvement in quality.
- **Dhara Mustard Hybrid-11** (DMH-11) is a GM variant of mustard developed in India.
- GE crops require clearance only from **the Institutional Bio-Safety Committee (IBSC) of the institution** concerned.
- GM crops require clearance from **the Genetic Engineering Appraisal Committee** of the **Ministry of Environment, Forest, and Climate Change.**

15. (b)

Explanation:

- **Mizoram** became the **first** state to operationalize Ayushman Bharat's Microsite project. **Hence, statement (1) is NOT correct.**
- Microsite is a cluster of all small and medium-scale clinics, nursing homes, hospitals (preferably <10 beds), labs, pharmacies, and other healthcare facilities that are ABDM-enabled and offer digital health services to patients.
- **National Health Authority** (NHA) in 2023 launched **100 Microsites Project** under the **Ayushman Bharat Digital Mission** (ABDM). **Hence, statement (2) is correct.**
- **Types of facilities under a Microsite:**
  - Private facilities such as standalone clinics, polyclinics, etc.
  - Health Facilities and Health Professionals from all the systems of medicine.
  - **Implementation:** by state Mission Directors of ABDM while the financial resources and overall guidance would be provided by NHA.

16. (c)

Explanation:

- **Ministry of Chemicals and Fertilizers** notifies Scheme for Promotion of Research and Innovation in Pharma MedTech Sector (PRIP).
- **Aim:** To promote industry-academia linkage for R&D in priority areas and to inculcate culture of quality research. **Hence, statement (1) is correct.**
- **Duration: 5 years** (2023-24 to 2027-28). **Hence, statement (2) is correct.**

Two components:

- Strengthening research infrastructure: By setting up Centres of Excellence at the National Institute of Pharmaceutical Education & Research (NIPERs).
- Promotion of research in pharma med-tech sector in six priority areas.

Eligibility:

- Any company registered in India.
- Project Appraisal and Approval: A Committee under the chairpersonship of Secretary, Pharmaceuticals
- Monitoring and Evaluation: An Empowered Committee under the chairmanship of **CEO NITI Aayog. Hence, statement (3) is correct.**

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17. (b)

Explanation:

- Recently, AgniKul Cosmos, a space tech start-up based in Chennai, has ventured into the launch of their groundbreaking **Agnibaan SubOrbital Technological Demonstrator (SOrTeD), the world's first 3D-printed rocket into space.**
- Agnibaan SOrTeD is a **single-stage** launch vehicle powered by **Agnilet engine,** which is an entirely 3D-printed, single-piece, **semi-cryogenic engine. Hence, statement (1) is NOT correct.**
- Agnibaan can carry payloads of up to 100 kg to a low Earth orbit (LEO) of up to 700 km.
- Unlike traditional sounding rockets that launch from guide rails, Agnibaan SOrTeD will **lift off vertically** and follow a **predetermined trajectory**. **Hence, statement (2) is correct.**
- Agnibaan SOrTeD will be the first step towards launching the **world's first 3D-printed rocket into space.**

18. (a)

Explanation:

- India launched its first of its kind **Autonomous Underwater Vehicle (AUV)** named 'Neerakshi. **Hence, option (a) is correct.**
- It can be used for mine detection, mine disposal, underwater surveys etc.
- It has an endurance of four hours and can go up to 300 metres deep.
- It is a collaboration of **Garden Reach Shipbuilders and Engineers (GRSE) Ltd** and **MSME entity Aerospace Engineering Private Ltd (AEPL).**

19. (c)

Explanation:

- Union government launched **Digital India RISC-V (DIR-V)** with the objective to enable the creation of next generation microprocessors in India.
- It will help ensure partnership between startups, academia, and multinationals to make India a RISC-V Talent Hub and supplier of RISC-V system of chips.
- The DIR-V Program is a forward-looking initiative that aims to **uplift India's semiconductor ecosystem.**
- Its primary goal is to promote **indigenous innovation in the field of microprocessor** laying the foundation for self-reliance.
- The program emphasizes **three** key principles: **innovation, functionality, and performance,** shaping its direction for the future.
- The term RISC stands for **"reduced instruction set computer"** which executes few computer instructions whereas **'V' stands for the 5th generation.**
- It is an **open-source hardware ISA (Instruction Set Architecture)** used for the development of **custom processors targeting a variety of end applications. Hence, statement (1) is correct.**
- It also enables designers to **create thousands of potential custom processors, facilitating faster time to market.** The commonality of the processor IP also saves software development time.
- RISC-V processors find versatile applications in **wearables, IoT, smartphones, automotive, aerospace,** and more, offering power efficiency, performance customization, and security. They excel in space-constrained designs and complex computational tasks. **Hence, statement (2) is correct.**
- The RISC was invented by **Prof. David Patterson around 1980 at the University of California, Berkeley.**

20. (a)

Explanation:

- Recently, the **Chief Justice of India (CJI) has condemned the practice of Forum Shopping** after a litigant mentioned the hearing before CJI although he had mentioned the same case a day before another Judge. **Hence, option (a) is correct.**
- Forum shopping **refers to the practice of deliberately choosing a specific court** for a legal case in the hope of getting a favourable outcome.
- Litigants and lawyers often consider this strategy as part of their litigation plan. For example, they might opt for a higher court like the Supreme Court (SC) to gain more attention for their case.
- However, if someone is clearly trying to manipulate the system or avoid a particular judge, it is seen as unfair.
- Similarly, **"Bench Hunting"** refers to petitioners managing to get their cases heard by a particular judge or bench to ensure a favourable order.

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21. (d)

Explanation:

- **In a recent judgement, the Supreme court underscored the need for judicial independence from the executive and legislature, including matters of finances.**
- The judgement, based on a petition filed by the All-India Judges Association, has led to significant directions and recommendations for the district judiciary's functioning and welfare.
- **Article 233-237** of the Indian Constitution deal with the provisions related to subordinate courts.
- **As per Article 233 of the Constitution of India:**
  - **Appointments** of persons to be, and the posting and promotion of, **district judges** in any State shall be **made by the Governor of the State in consultation with the High Court** exercising jurisdiction in relation to such State. **Hence, statement (1) is NOT correct.**
  - **A person not already in the service of the Union or of the State shall only be eligible to be appointed a district judge if he has been for not less than seven years an advocate** or a pleader and is recommended by the High Court for appointment. **Hence, statement (2) is NOT correct.**
- The district judiciary, being the most accessible court for litigants, serves as the primary interface between the justice system and the people.

22. (a)

Explanation:

- **National Commision for Backward Classes (NCBC)** is a **constitutional body** that examines requests for inclusion of castes in the Central OBC list.
- **102nd Constitutional Amendment Act, 2018** provides constitutional status to the NCBC. **Hence, statement (1) is NOT correct.**
- It has the authority to examine complaints and welfare measures regarding **socially and educationally backward** classes. **Previously NCBC was a statutory body** under the Ministry of Social Justice and Empowerment.
- There is **no ex officio chairperson of NCBC.** The National Commission for Backward Classes consists of **a chairperson, a vice-chairperson and three other members.** They are appointed by the President of India by a warrant under his hand and seal. **Hence, statement (3) is NOT correct.**
- **Two Backward Class Commissions** were appointed in **1950s and 1970s** under Kaka Kalelkar and B.P. Mandal respectively. The **Kaka Kalelkar** commission is also known as the **First** Backward Classes Commission. **Hence, statement (2) is correct.**
- In the **Indra Sawhney case of 1992,** the Supreme Court had directed the government to create a permanent body to entertain, examine and recommend the inclusion and exclusion of various Backward Classes for the purpose of benefits and protection.
- In pursuant to these directions' parliament passed the **National Commission for Backward Classes Act** in **1993** and constituted the NCBC.

23. (c)

Explanation:

- The **22nd Law Commission's** recent report provides a thorough examination of adverse possession and its implications in property law and recommended that no changes are necessary in the existing provisions under the **Limitation Act of 1963.**
- **Adverse possession** refers to the acquisition of property through hostile, continuous, uninterrupted, and peaceful possession.
- It aims to prevent long-standing doubts over land ownership and to benefit society by allowing someone to make use of idle land left by the owner. **Hence, statement (1) is correct.**
- **Acquisition of Ownership:** Under the **Limitation Act, 1963,** any person in **possession of private land for over 12 years** or **government land for over 30 years** can become the owner of that property. **Hence, statement (2) is correct.**
- To claim adverse possession, the possession must be open, continuous, and adverse to the rights of the true owner for the required statutory period.

24. (c)

Explanation:

- Recently, the Mayon volcano began expelling lava on June 11, 2023, night, forcing nearly 18,000 people to flee to emergency shelters.
- **Mayon volcano, Taal volcano,** and **Cabalian volcano** are all located in the **Philippines.**

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- The Philippines is an **archipelago** located in the western Pacific Ocean and is part of the **Pacific Ring of Fire,** an area known for its **high volcanic** and **seismic activity.**
- These volcanoes are notable for their frequent eruptions and are part of the volcanic system in the Philippines, which has a history of volcanic activity due to its location along the boundary of the Philippine Sea Plate and the Eurasian Plate. **Hence, option (c) is correct.**

25. (c)

Explanation:

- **Ram Prasad Bismil known for his revolutionary spirit** and poetic prowess, played a significant role in the fight against British colonial rule.
- Bismil grew **disillusioned with the moderate wing of the Congress Party and founded a revolutionary organization called 'Matrivedi'.**
- In 1918, Bismil and Dixit got involved in the **Mainpuri Conspiracy** in which they distributed prohibited literature.
- On 28 January 1918, Bismil distributed two of his writings to people- a pamphlet titled **Deshwasiyon ke Naam Sandesh** (A Message to Countrymen) and **Mainpuri ki Pratigya** (Vow of Mainpuri).
- To collect funds for their parties they looted government coffers on three occasions in 1918.
- In 1920, he formed the Hindustan Republican Association **(HRA)** with **Sachindra Nath Sanyal** and **Jadugopal Mukherjee. Hence, statement (1) is correct.**
- **The HRA's manifesto, largely penned by Bismil, aimed to establish a federal Republic of the United States of India through an armed revolution. Hence, statement (2) is NOT correct.**
- **The Kakori train robbery in 1925 was a major action of the HRA, aimed at acquiring funds for their activities and generating publicity. Hence, statement (3) is correct.**
- Bismil and his companions **Chandrasekhar Azad** and **Ashfaqulla Khan** decided to loot a train in Kakori near Lucknow.
- They were successful in their attempt but were arrested alongside a dozen other HRA members within a month of the attack and tried under the **Kakori Conspiracy Case.**
- The legal process lasted 18 months. Bismil, Lahiri, Khan and Thakur Roshan Singh were awarded death sentences.

26. (c)

Explanation:

- National Social Assistance Programme (NSAP) was launched on 15th August 1995 as a **Centrally Sponsored Scheme.**
- **It represents a significant step towards the fulfilment of the Directive Principles in Articles 41 and 42 of the Constitution of India.**
- **Article 41** of the Indian Constitution directs the state to secure the right to work, education and public assistance in certain cases such as unemployment, **old age**, sickness and disablement. **Hence, statement (2) is correct.**
- **It aims to provide support to aged persons, widows, disabled persons and bereaved families on the death of the primary income producer, belonging to below-poverty-line households.**
- NSAP has Five Sub-Schemes:
  - **Indira Gandhi National Old Age Pension Scheme (IGNOAPS):** Under the scheme, BPL persons aged 60 years or above are entitled to a monthly pension of Rs. 200/- up to 79 years of age and Rs.500/- thereafter.
  - **Indira Gandhi National Widow Pension Scheme (IGNWPS):** BPL widows aged 40-59 years are entitled to a monthly pension of Rs. 200/-.
  - **Indira Gandhi National Disability Pension Scheme (IGNDPS):** BPL persons aged 18-59 years with severe and multiple disabilities are entitled to a monthly pension of Rs. 200/-.
  - **National Family Benefit Scheme (NFBS):** Under the scheme a BPL household is entitled to a lump sum amount of money on the death of a primary breadwinner aged between 18 and 64 years. The amount of assistance is Rs. 10,000/-.
  - **Annapurna:** Under the scheme, 10 kg of food grains per month are provided free of cost to those senior citizens who, though eligible, have remained uncovered under NOAPS.
- **Implementation:**
  - **NSAP is administered by the Ministry of Rural Development in collaboration with the state/UT governments. Hence, statement (1) is correct.**

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- NSAP uses **Direct Benefit Transfer (DBT)** mode to transfer funds to the beneficiaries' bank accounts or postal accounts.

27. (a)

Explanation:

- The Geographical Indications Registry in Chennai has awarded Geographical Indication (GI) tags to seven products from different regions of India, showcasing the country's diverse craftsmanship.
- New GI Tags for Indian Crafts:
  - **'Jalesar Dhatu Shilp'** - a metal craft from Jalesar, **Uttar Pradesh,** known for decorative metal crafts and brassware. **Hence, pair (1) is NOT correctly matched.**
  - **Goa's 'Mankurad Mango',** also called 'Malcorada', represents a unique variety of mangoes.
  - **'Goan Bebinca' - the traditional Indo-Portuguese pudding, known as the 'queen of Goan desserts'. Hence, pair (3) is NOT correctly matched.**
- **Rajasthan's four GI tags:**
  - **Udaipur Koftgari Metal Craft:** It is the art of exquisitely ornamenting the weapons.
  - **Bikaner Kashidakari Craft:** It is traditionally created on cotton, silk or velvet with a variety of fine stitches and mirrorwork, mainly for objects associated with marriage, especially gift items.
  - **Jodhpur Bandhej Craft:** It is the art of tying and dyeing.
  - **Bikaner Usta Kala Craft:** It is also known as gold nakashi or gold manauti work due to the prominence of its long-lasting golden colour. **Hence, pair (2) is correctly matched.**

28. (c)

Explanation:

- **National Internet Exchange of India (NIXI) is a not-for-profit Organization under section 8 of the Companies Act 2013 and was registered on 19th June 2003. Hence, statement (1) is NOT correct.**
- It was set up for peering of Internet Service Providers (ISP's) among themselves for the purpose of routing the domestic traffic within the country, instead of taking it all the way to US/Abroad, thereby resulting in better quality of service (reduced latency) and reduced bandwidth charges for ISPs by saving on International Bandwidth.
- **NIXI is managed and operated on a Neutral basis, in line with the best practices for such initiatives globally.**
- **Net neutrality has not directly been regulated in India by any law or policy framework. Hence, statement (2) is NOT correct.**
- Over the last year, there have been some developments with respect to the formulation of a net neutrality policy.
  - TRAI is working on Differential Pricing for Data Services as well as Regulatory Framework for Over-The-Top Services (OTT).
  - Also, Internationally, countries like the USA, Japan, Brazil, Chile, Norway, etc. have some form of law, order or regulatory framework in place that affects net neutrality.
- The Digital Media Ethics Code, under the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 establishes an institutional mechanism for digital news portals and OTT platforms.
  - **The rules establish a soft touch progressive institutional mechanism with a level playing field featuring a Code of Ethics and a three-tier grievance redressal framework for news publishers and OTT platforms on the digital media.**

Hence, statement (3) is correct.

29. (c)

Explanation:

- **The Government of India has introduced a new fellowship programme called Vaishvik Bhartiya Vaigyanik (VAIBHAV) to facilitate collaboration between the Indian diaspora in Science, Technology, Engineering, Mathematics and Medicine (STEMM) and Indian academic and research institutions. Hence, option (c) is correct.**
- The VAIBHAV Fellowship **aims at improving the research ecosystem of India's Higher Educational and Scientific Institutions** by facilitating academic and research collaborations between Indian Institutions and the best institutions in the world through mobility of faculty/researchers from overseas institutions to India.

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- **It is implemented by the Department of Science and Technology (DST), Ministry of Science and Technology.**
- Other Government Initiatives involving Overseas Indian-
  - **Pravasi Bharatiya Divas (PBD)** is celebrated on **9th January** every year to mark the contribution of the Overseas Indian community in the development of India.
  - **Know India Program (KIP)** is a flagship initiative of the **Ministry of External Affairs** (MEA) for diaspora engagement which familiarises Indian-origin youth (18-30 years) with their Indian roots and contemporary India.
  - **VAJRA (Visiting Advanced Joint Research) Faculty Scheme** of the Department of Science &Technology enables NRIs and overseas scientific communities to participate and contribute to research and development in India.

30. (a)

Explanation:

- Cholesterol is a waxy substance found in blood. The body needs cholesterol to build healthy cells, but high levels of cholesterol can increase your risk of heart disease.
- 213 million individuals had fat accumulation in arteries, increasing the risk of heart attacks and strokes.
- **Cholesterol, triglycerides, and high-density lipoproteins are important constituents of the lipid fraction of the human body. Hence, statement (1) is correct.**
- **LDL is the "bad cholesterol"** because too much of it in blood can contribute to plaque buildup in the arteries. **Hence, statement (3) is NOT correct.**
- 185 million individuals had elevated levels of **low-density lipoprotein (LDL)** cholesterol.
- **HDL (high-density lipoprotein) cholesterol, sometimes called "good" cholesterol,** absorbs cholesterol in the blood and carries it back to the liver. **Hence, statement (2) is NOT correct.**
- **The liver then flushes it from the body. High levels of HDL cholesterol can lower your risk for heart disease and stroke. Hence, statement (4) is NOT correct.**

31. (b)

Explanation:

- July 2023 witnessed a notable increase in Retail Inflation, reaching 7.44%, creating Goldilocks scenario for India, making investors and savers uncertain about the economic situation.
- **A Goldilocks economy describes an ideal state for an economy whereby the economy is not expanding or contracting by too much.**
- A Goldilocks economy has **steady economic growth, preventing a recession, but not so much growth that inflation rises by too much.**
- It is also ideal for investing because as companies grow and generate positive earnings growth, stocks perform well.
- The term "Goldilocks" references the famous children's tale of the same name, describing situations that are "just right" amid two extremes.
- **Goldilocks economies** are **temporary in nature**, as seen by the **boom**-and-**bust cycles.**

Hence, option (b) is correct.

32. (c)

Explanation:

- **Greenwashing is a deceptive marketing practice** employed by companies to create a false perception of environmental responsibility and sustainability. It involves making exaggerated or misleading claims about a product, service, or corporate image to appear eco-friendly, often to attract environmentally conscious consumers. **Hence, statement (1) is correct.**
- This strategy can involve the use of **eco-friendly labels, vague terminology, or cherry-picking information to create an illusion of being green.**
- In reality, these companies may not genuinely prioritize environmental or social responsibility.
- Companies may provide limited information about the projects they support, making it difficult to verify their claims and assess the actual environmental impact.
- This lack of transparency undermines the credibility and trustworthiness of the carbon credit system. It can lead to a **lack of transparency** in the **carbon offset market. Hence, statement (2) is correct.**
- Greenwashing practices may divert attention and resources away from genuine efforts to reduce carbon emissions.

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- It can mislead consumers, making them believe they are supporting environmentally responsible brands while undermining genuine efforts to address pressing environmental and social issues.
- It is considered an unfair trade practice under the **Consumer Protection Act, 2019** in India, which prohibits misleading claims, but implementation of these regulations remains a challenge. **Hence, statement (3) is correct.**

33. (a)

Explanation:

- **The Great Indian Bustard (Ardeotis nigriceps) is a critically endangered bird species native to India.** It is a large ground-dwelling bird known for its striking appearance, characterized by a long neck, long legs, and distinctive plumage.
- It is considered the **flagship grassland species,** representing the health of the grassland ecology. **It inhabits dry grasslands and scrublands on the Indian subcontinent. Hence, statement (4) is correct.**
- In India, its population is confined mostly to Rajasthan and Gujarat. Small populations occur in Maharashtra, Karnataka and Andhra Pradesh. However, it is the **state bird of Rajasthan only and not that of Gujarat. Hence, statement (2) is NOT correct.**
- **It is one of the heaviest flying birds** (weighing up to 15kgs), but it is not flightless. **Hence, statement (1) is NOT correct.**
- **Protection Status:**
  - **IUCN Red List:** Critically Endangered. **Hence, statement (3) is NOT correct.**
  - Convention on International Trade in Endangered Species of Wild Fauna and Flora (**CITES**): **Appendix I**
  - Convention on Migratory Species (**CMS**): **Appendix I**
  - **Wildlife (Protection) Act, 1972: Schedule I**

34. (c)

Explanation:

- Recently, deep ocean currents in Antarctica are slowing down earlier than predicted, potentially disrupting the crucial overturning circulation.
- **Overturning circulation** involves the **vertical movement of ocean water, characterized by the sinking of cold, dense water in some regions and the rising of warmer water in others, creating a global conveyor belt of sorts.**
- It is responsible for the **redistribution of heat** on a global scale. Warm surface waters near the equator move towards higher latitudes, where they release heat into the atmosphere, warming the regions around them. Cold, dense water sinks at higher latitudes and travels towards the equator, completing the circulation loop.
- **Importance:**
  - Overturning circulation plays a crucial role in maintaining climate stability on Earth.
  - **It facilitates the transport of heat, carbon, and nutrients, influencing the planet's climate system.**
  - **It ensures the supply of oxygen to the deep ocean, supporting marine life and its ecosystems.**
- **Impact of Slowdown in Overturning Circulation:**
  - The observed slowdown of deep ocean currents in Antarctica, occurring earlier than anticipated, raises concerns about climate stability.
  - A reduced flow of bottom water results in a decline in oxygen supply to the deep ocean, impacting oxygen-dependent organisms.
  - Lower oxygen levels may lead to behavioural changes, migrations, and disruptions in the marine food chain.

Hence, statement-I and statement-II are correct but statement-II is NOT the correct explanation for statement-I.

35. (a)

Explanation:

- Leaders from South American nations that are home to the Amazon **challenged developed countries to do more to stop the massive destruction of the world's largest rainforest.**
- Assembling in the Brazilian city of Belem, the members of the **Amazon Cooperation Treaty Organization, (ACTO),** also sought to chart a **common course on how to combat climate change,** hoping a united front would give them a major voice in global talks.
- ACTO is an intergovernmental socio environmental block formed by signing of the Amazon Cooperation Treaty.

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- **Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname**, and **Venezuela** are its members.
- **Belém Declaration** calls for ensuring **participation of Indigenous Peoples in decision-making.** It also commits to launching the Amazon Alliance to Combat Deforestation. **Hence, option (a) is correct.**

36. (b)

Explanation:

- The **Minamata Convention on Mercury** is an international treaty established to protect human health and the environment from the harmful effects of mercury and its compounds.
- Named after the Japanese city of Minamata, which suffered a severe mercury poisoning incident in the 1950s, **the convention was adopted in 2013 and entered into force in 2017.**
- The **convention aims** to reduce the emissions and **release of mercury** into the environment, focusing on various sources, including **industrial processes,** small-scale **gold mining,** and the use of mercury in products like **batteries** and **fluorescent lamps. Hence, statement (1) is correct.**
- Minamata Convention on Mercury, adopted in 2013 at Geneva, is first global **legally binding treaty** to protect human health. **Hence, statement (2) is correct.**
- India ratified it in 2018 with flexibility for continued use of **mercury-based products** and processes involving mercury compounds up to 2025. **Hence, statement (3) is NOT correct.**
- It promotes information sharing, technical assistance, and capacity building to help countries meet their obligations under the convention.

37. (b)

Explanation:

- National Tiger Conservation Authority (NTCA) has given its approval for the **establishment of the Dholpur-Karauli Tiger Reserve** in the state of **Rajasthan. Hence, option (b) is correct.**
- It has secured its position as the **fifth tiger reserve** in the state of Rajasthan following **Mukundra Hills, Ramgarh Vishdhari, Ranthambore, and Sariska.**
- Tiger reserves are protected areas specifically dedicated to the conservation and preservation of the critically endangered tiger species. These reserves play a vital role in safeguarding the natural habitats of tigers and maintaining ecological balance.
- They are established with the aim of promoting tiger population recovery and conserving the broader biodiversity within their ecosystems.
- In India, for instance, **Project Tiger** was launched in **1973** to establish and manage tiger reserves effectively.
- **These reserves often have stringent regulations against poaching and habitat destruction and are managed to provide suitable living conditions for tigers.**
- They also serve as significant sites for wildlife research and eco-tourism, generating awareness and support for tiger conservation efforts.

38. (d)

Explanation:

- Recently, **India** and the **United States of America** have taken a significant step towards strengthening their strategic partnership and driving technology and defence cooperation.
- Under the **Initiative on Critical and Emerging Technologies (iCET),** the two nations have unveiled a roadmap for enhanced collaboration in high technology areas. **Hence, option (d) is correct.**
- The initiative focuses on addressing **regulatory barriers, aligning export controls,** and fostering deeper **cooperation in critical** and **emerging fields.**
- **Under iCET, both countries have identified six areas of cooperation** which would include co development and co-production, that would gradually be expanded to QUAD, then to NATO, followed by Europe and the rest of the world.
- It aims to promote collaboration in critical and emerging technology areas, including **AI, quantum computing, semiconductors,** and **wireless telecommunication.**
- **Focus Areas of the Initiative:**
  - AI research agency partnership.
  - Defence industrial cooperation, defence technological cooperation, and defence startups.
  - Innovation Ecosystems.
  - Semiconductor ecosystem development.
  - Cooperation on human spaceflight.
  - Advancement in 5G and 6G technologies, and adoption of OpenRAN network technology in India.

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39. (b)

Explanation:

- Greece is a country in southeastern Europe on the southern part of the Balkan Peninsula bordering the Mediterranean Sea in south and the Ionian Sea in west.
- Greece is bordered by **Albania, Bulgaria, Turkey, Republic of Macedonia,** and it shares **maritime borders** with **Cyprus, Egypt, Italy,** and **Libya. Hence, option (b) is correct.**
- **The peninsular mainland offers a quite mountainous landscape.**
- Then there is the Peloponnese peninsula, it is more an island because it is separated from the mainland by the Gulf of Corinth.
- And then there are the Greek islands, a lot of islands, many, more than 1,000 anyway.
- The ten largest islands by area are Crete, Euboea, Lesbos, Rhodes, Chios, Cephalonia, Corfu, Lemnos, Samos and Naxos. The most populous islands are Crete, Euboea, Rhodes, Corfu, Lesbos, Chios, Kefalonia, and Zakynthos.

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40. (d)

Explanation:

- **Credit Rating Agency (CRA) assesses, calculates and assigns the credit ratings to companies, organizations and enterprises. Hence, option (d) is correct.**
- It performs a detailed analysis of financial instruments of various entities.
- CRAs **help lenders and investors determine the potential risk involved in lending money to a particular borrowing entity.**
- It depicts the risk involved with investing in debt instruments.
- The rating scales used by the Credit Rating Agencies are usually from 'AAA', 'BBB-', 'BAA3' and 'D', wherein 'AAA' stands for highest ratings and 'D' as lowest or Bad Credit Rating. Similarly, as credit score range calculated by credit bureaus is from 300-900.
- In India, **the Securities and Exchange Board of India (SEBI)** is the primary authority that **approves or regulates Credit Rating companies in India** and their various functionalities.
- Credit rating involves evaluating the creditworthiness of entities, usually governments and businesses, by Credit Rating Agencies (CRAs), such as **CRISIL, ICRA, CARE,** etc. Credit ratings are usually expressed as letter grades.

41. (a)

Explanation:

Corporate Social Responsibility (CSR) in India:

- Enactment of **Companies Act, 2013** by **the Ministry of Corporate Affairs,** Government of India was one of the world's largest experiments of introducing the CSR as a **mandatory provision** by imposing statutory obligation on Companies to take up CSR projects towards social welfare activities. **Hence, option (a) is correct.**
- This has made India the only country which has regulated and mandated CSR for some select categories of companies registered under the Act.
- This CSR Initiative will push the nation towards achievement of sustainable development goals and **public-private partnership** in transforming India.

42. (a)

Explanation:

- The acid-test, or quick ratio, compares a company's most short-term assets to its most short-term liabilities to see **if it has enough cash to pay its immediate liabilities,** such as short-term debt. **Hence, statement (1) is correct.**
- The acid-test ratio disregards current assets that are difficult to liquidate quickly, such as inventory.
- The acid-test ratio may not give a reliable picture of a firm's financial condition if the company has accounts receivable that take longer than usual to collect or current liabilities that are due but have no immediate payment needed.
- The acid-test ratio, commonly known as the **quick ratio,** uses data from a firm's balance sheet to indicate whether it has the means to cover its short-term liabilities. Generally, **a ratio of 1.0 or more indicates a company can pay its short-term obligations, while a ratio of less than 1.0 indicates it might struggle to pay them. Hence, statement (2) is NOT correct.**

43. (c)

Explanation:

- New variety of lotus flower with 108 petals, named **"Namoh 108",** developed by Lucknow Institute CSIR-NBRI (National Botanical Research Institute)
- The "NBRI Namoh 108" **lotus variety flowers** from March to December and is the first flower whose genome is completely sequenced for its characteristics.
- The lotus has 108 petals and **was discovered several years ago in Manipur** and kept at the institute as part of its collection of flowers and plants, on which the institute conducts research. However, it wasn't until four years ago that one of the scientists discovered that it had 108 petals. **Hence, option (c) is correct.**
- Also, a new variety of Aloe vera named **'NBRI-Nihar',** a clonal selection having approximately 2.5 times high gel yield in comparison to Aloe vera has also been discovered. As per the field observations, 'NBRI-Nihar' is found least affected against bacterial and fungal diseases.

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44. (b)

Explanation:

- **Maharatna CPSEs (Total 13):** Bharat Heavy Electricals Limited, Bharat Petroleum Corporation Limited, Coal India Limited**,** GAIL India Limited, Hindustan Petroleum Corporation Limited, Indian Oil Corporation Limited, NTPC Limited, Oil & Natural Gas Corporation Limited, Power Finance Corporation, Power Grid Corporation of India Limited, **Steel Authority of India Limited,** Rural Electrification Corporation Limited, **Oil India Ltd. Hence, option (b) is correct.**
- **Navratna CPSEs (Total 16):** Bharat Electronics Limited, Container Corporation of India Limited, Engineers India Limited, Hindustan Aeronautics Limited, Mahanagar Telephone Nigam Limited, **National Aluminium Company Limited.**
- **Eligibility criteria for grant of Maharatna status:**
  - Having **Navratna** status.
  - Listed on **Indian stock exchange** with minimum prescribed public shareholding under SEBI regulations.
  - An average annual **turnover of more than Rs 25,000 crore** during the **last three years.**
  - An average annual net worth of more than Rs 15,000 crore during the last three years.
  - An average annual net profit after tax of more than Rs 5,000 crore during the last three years.
  - Should have **significant global presence**/ international operations.

45. (c)

Explanation:

- **Universal Service Obligation Fund (USOF):** It has provisions for the obligation to **provide access to Telegraph services to people in the rural and remote areas at affordable and reasonable prices. Hence, statement (1) is correct.**
  - USOF **was set up by an Act of Parliament in 2003** by amending **the Indian Telegraph Act, 1885. Hence, statement (2) is correct.**
  - The **objective of USOF** is to provide access to telecom services in a non-discriminatory manner to people in the rural and remote areas at affordable and reasonable prices, thereby bridging the rural-urban digital divide.
  - USOF inflow comes from the collection of **Universal Access Levy (UAL)** through the license fee charged on licensee of **DoT @ 5%** of the **adjusted gross revenue (AGR)** on Internet Service Providers.
  - For commercially non-viable rural and remote areas, USOF provides subsidy support in the form of Net Cost or **Viability Gap Funding (VGF)** to incentivize telecom service providers.
- **BharatNet** is a project of national importance to establish a highly scalable network infrastructure accessible on a non-discriminatory basis, to provide on demand, affordable broadband connectivity of 2 Mbps to 20 Mbps for all households and on demand capacity to all institutions, to realize the vision of Digital India, in partnership with States and the private sector.
- The entire project **is being funded by Universal service Obligation Fund (USOF),** which was set up for improving telecom services in rural and remote areas of the country. The objective is to facilitate the delivery of e-governance, e-health, e-education, e-banking, Internet and other services to the rural India. **Hence, statement (3) is correct.**

46. (a)

Explanation:

- Under the **'plug and play' concept,** all regulatory clearances will be put in place before a project is awarded to any private developer through an auction. It is mainly explored in India for investment model. **Hence, option (a) is correct.**
- The hub and spoke model refers to a distribution method in which a centralized "hub" exists. Everything either originates in the hub or is sent to the hub for distribution to consumers.
- From the hub, goods travel outward to smaller locations owned by the company, called spokes, for further processing and distribution. This is used in the airline industry. The scheme like **Ude Desh ka Aam Nagarik (UDAAN) is based on the 'Hub and Spoke' model.**

47. (c)

Explanation:

- In exercise of the powers conferred by Section 3 of **the Essential Commodities Act, 1955,** the Central Government hereby makes the following order, called **the Sugarcane (Control) Order, 1966.**

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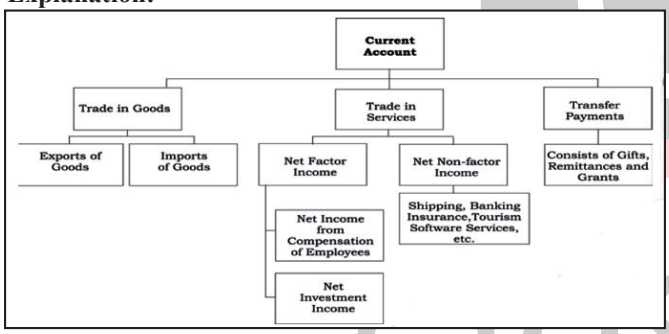
- The Fair and Remunerative Price (FRP) in India is the price set by the government that sugar mills **are legally obliged** to pay to farmers for the sugarcane they supply. This pricing mechanism is governed by The Sugarcane Control Order of 1966, which mandates that payment should be made **within 14 days of cane delivery. Hence, statement (1) and (2) are correct.**
- The announcement of FRP is made by the Central Government, and it is determined following **recommendations from the Commission for Agricultural Costs and Prices (CACP).** The final decision is announced by the Cabinet Committee on Economic Affairs (CCEA), which is chaired by the Prime Minister of India.
- The foundation for setting FRP is derived from the Rangarajan Committee report, which aimed to reorganize the sugarcane industry and ensure fair compensation to farmers for their produce

48. (c)

Explanation:



- Current Account is the record of trade in goods and services and **transfer payments. Hence, statement (1) is correct.**
- Trade in goods includes **exports and imports of goods. Hence, statement (2) is correct.**
- Trade in services includes **factor income and non-factor income transactions. Hence, statement (3) is correct.**
- Transfer payments are the receipts which the residents of a country get for 'free', without having to provide any goods or services in return.
- They consist of **gifts, remittances and grants.**
- They could be given by the government or by private citizens living abroad.
- Buying foreign goods is expenditure from our country and it becomes the income of that foreign country.
- Hence, the purchase of foreign goods or imports decreases the demand for domestic goods and services in our country.
- Similarly, selling of goods or exports brings income to our country and adds to the aggregate domestic demand for goods and services in our country.

49. (a)

Explanation:

- High powered money is **Money injected by the monetary authority in the economy.**
- It consists mainly of **currency.**
- High power money or Reserve money or base money is the central bank issued money that function as the monetary base of an economy and it mostly includes all of the currency (currency notes, coin and e₹) in circulation, in addition to bank's deposits with the central bank.
- It depicts the stock of monetary liabilities in the central bank's balance sheet.
- **High Powered Money = C + OD + CR.**

C = Currency with the public

OD = Other Deposits of the general public with the RBI.

CR = Cash Reserves of banks which consists of

  - Cash with banks themselves and
  - Bankers' deposits with RBI.

Hence, option (a) is correct.

50. (c)

Explanation:

- **A fixed exchange** rate tells you that you can always exchange your money in one currency for the same amount of another currency.
- A fixed exchange rate is a regime applied by a government or central bank that ties the country's official currency exchange rate to another country's currency. **Hence, statement (1) is correct.**
- The purpose of a fixed exchange rate system is to **keep a currency's value within a narrow band.**
- Fixed exchange rates provide greater certainty for exporters and importers and help the government maintain low inflation.
- **Fixed exchange rates** are maintained by **automatic equilibrium** mechanism. **Hence, statement (2) is correct.**

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- Under fixed exchange rate the equilibrium level of prices and employment in the domestic economy are determined by conditions of domestic flow equilibrium at level of domestic real interest rate and foreign output.
- Many industrialized nations began using the floating exchange rate system in the early 1970s.
- From the end of World War II to the early 1970s, the Bretton woods agreement meant that the exchange rates of participating nations were pegged to the value of the U.S. dollar, which was fixed to the price of gold.
- It allows you to determine how much of one currency you can trade for another. For example, if you go to Saudi Arabia, you always know a dollar will buy you 3.75 Saudi riyals, since the dollar's exchange rate in riyals is fixed.
- Saudi Arabia did that because its primary export, oil, is priced in U.S. dollars. All oil contracts and most commodities contracts around the world are written and executed in dollars.

51. (b)

Explanation:

- The **Resilient and Inclusive Supply-chain Enhancement (RISE) initiative** is a project led by the **World Bank and Japan. Hence, statement (1) is NOT correct.**
- The initiative aims to help emerging markets and developing countries:
  - Increase manufacturing of clean-energy products.
  - Boost their participation in the minerals industry.
  - Play bigger roles in the midstream and downstream of supply chains of clean energy products.
- The **RISE initiative was launched in Morocco.** It aims to tackle the **dual challenges of job creation and climate change. Hence, statement (2) is correct.**
- The initiative was announced in a meeting of G7 finance ministers.
- It reflects concern among some advanced nations over their heavy reliance on China for key mineral resources and goods related to energy security.

52. (b)

Explanation:

- **The Reserve Bank of India (RBI)** has announced a host of measures to provide **liquidity support to Non-Banking Financial Companies (NBFCs),** apart from giving them certain benefits for loans extended to the commercial real estate sector. **Hence, statement (1) is correct.**
- The banks have to invest the funds availed under Targeted Long-term Repo Operations (TLTRO 2.0), in investment grade bonds, commercial paper, and non-convertible debentures of NBFCs.
- The investments made by banks under this facility would be classified as 'Held-to-Maturity' (HTM), even in excess of 25% of the total investment permitted to be included in the HTM portfolio.
- Held to Maturity securities are securities that companies purchase and intend to hold until they mature. **Hence, statement (3) is correct.**
- LTRO is a tool that lets banks borrow **one to three-year funds from the RBI** at the repo rate, by providing government securities with similar or higher tenure as collateral. **Hence, statement (2) is NOT correct.**
- It is called **'Targeted'** LTRO as in this case, the RBI wants banks opting for funds under this option to be specifically invested in investment-grade bonds.

53. (d)

Explanation:

- **National Housing Bank (NHB)** is a **statutory** organization that was established on July 9, 1988 under the **National Housing Bank Act, 1987.** It is the apex level financial institution for the housing sector in the country.
- NHB aims to facilitate the **promotion of Housing Finance Institutions** and provides financial and other support to such institutions
- It is a **government-owned entity.** The **government took over the NHB from the RBI** after buying entire stake of Rs. 1,450 crore in 2019. **Hence, statement (2) is NOT correct.**
- **The Reserve Bank of India (RBI)** publishes the **All-India Housing Price Index (HPI).** The HPI is updated **quarterly. Hence, statement (1) is NOT correct.**
- **National Housing Bank** (NHB) release the **RESIDEX index.**

54. (b)

Explanation:

- **Masala Bonds** are a type of **rupee-denominated bond** issued by **Indian entities in foreign markets,** primarily designed to allow these entities to **raise capital outside of India.**

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- The term **"Masala" reflects the Indian origin of these bonds.** They are often issued to attract international investors to invest in India's infrastructure and other projects while mitigating currency risk, as the bonds are denominated in Indian rupees.
- The term was used by **International Finance Corporation (IFC)** to popularise the culture and cuisine of India on foreign platforms.
- The **objective of Masala Bonds** is to **fund infrastructure projects** in India, fuel internal growth via borrowings and **internationalize the Indian currency.**
- These bonds offer Indian issuers a way to **tap into foreign capital markets** and diversify their sources of financing. **Hence, option (b) is correct.**

55. (a)

Explanation:

- **The electoral bonds system** was **introduced in 2017** by way of a Finance bill and it was implemented in 2018.
- They serve as a means for individuals and entities to make donations to registered political parties while maintaining donor anonymity.
- **State Bank of India (SBI)** is the authorized issuer. Electoral Bonds are issued through designated SBI branches. **Hence, statement (1) is correct.**
- **State Bank of India (SBI)** issues the bonds in **denominations of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore.** Payable to the bearer on demand and interest-free. Purchased by Indian citizens or entities established in India.
- They can be bought individually or jointly with other individuals. Valid for 15 calendar days from the date of issue. **Hence, statement (3) is NOT correct.**
- Only the political parties **registered under Section 29A of the Representation of the People Act, 1951** and **have secured not less than 1% of the votes polled** in the last general election to the House of the People or the Legislative Assembly, are eligible to receive electoral bonds. **Hence, statement (2) is NOT correct.**

56. (c)

Explanation:

- The **objective** of the **Prompt Corrective Action (PCA) Framework is to enable supervisory intervention** at an appropriate time and require the supervised entity to initiate and implement remedial measures in a timely manner, to restore its financial health.
- The **PCA Framework** is also intended to **act as a tool for effective market discipline.** The PCA Framework does not preclude the Reserve Bank of India from taking any other action as it deems fit at any time, in addition to the corrective actions prescribed in the Framework.
- **Capital, Asset Quality and Leverage** will be the key areas for monitoring in the revised framework. Indicators to be tracked for Capital, Asset Quality and Leverage would be Capital to risk-weighted asset Ratio (CRAR)/ Common Equity Tier I Ratio, Net NPA Ratio 3 and Tier I Leverage Ratio respectively. **Hence, statement (1) is correct.**
- The PCA Framework would **apply to all banks operating in India including foreign banks** operating through branches or subsidiaries based on breach of risk thresholds of identified indicators. **Hence, statement (2) is correct.**

57. (b)

Explanation:

- **Ubharte Sitaare Fund** was registered in July 2021 and co-sponsored by **SIDBI and Export-Import Bank of India. Hence, statement (1) is NOT correct.**
- The objective is to identify and invest in ventures in manufacturing and service industries which are **presently in domestic markets looking to enter foreign markets** as well as existing mid-sized exporters wanting to scale up their operations. **Hence, statement (2) is correct.**
- The strategy will involve **investing in manufacturing and services ventures** which have the potential to become champion exporters through technology upgradations, product development, business strategy and market development.
- The fund is a **close-ended fund** registered with the **Securities and Exchange Board of India (SEBI)** as a **Category II Fund.**

58. (a)

Explanation:

- **A payments bank** (Airtel Payments Bank, India Post Payments Bank, etc.) is like any other bank, but **operating on a smaller or restricted scale.**
- Credit risk is not involved with the Payments Bank. It can carry out most banking operations but **cannot advance loans or issue credit cards. Hence, statement (1) is NOT correct.**

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- A **committee headed by Dr. Nachiket Mor** recommended setting up of **a 'Payments Bank'** to cater to the lower income groups and small businesses. **Hence, statement (2) is correct.**
- There are two kinds of banking licences that are granted by the Reserve Bank of India - universal bank licence and differentiated bank licence.
- Payment's bank comes under a differentiated bank licence since it cannot offer all the services that a commercial bank offers. In particular, **a payments bank cannot lend. Hence, statement (3) is NOT correct.**
- The **objectives** of setting up of a payments bank is to **further financial inclusion** by providing small savings accounts and payments/remittance services to migrant labour workforce, low-income households, small businesses, other unorganised sector entities and other users.

59. (b)

Explanation:

- **Wholesale Price Index (WPI)** measures the changes in the prices of goods sold and traded in bulk by wholesale businesses to other businesses.
- Published by the **Office of Economic Adviser, Ministry of Commerce and Industry.** It is the most widely used inflation indicator in India. **Hence, statement (1) is NOT correct.**
- Major criticism for this index is that the general public does not buy products at wholesale price. The base year of All-India WPI has been revised from 2004-05 to **2011-12.**
- **WPI tracks inflation at the producer level** and Consumer Price Index (CPI) captures changes in prices levels at the consumer level. CPI is released by **National Statistical Office (NSO). Hence, statement (3) is correct.**
- Both baskets measure inflationary trends (the movement of price signals) within the broader economy, the two indices differ in which weightages are assigned to food, fuel and manufactured items.
- In **WPI, more weightage is given to manufactured goods,** while in **CPI, more weightage is given to food items. Hence, statement (2) is correct.**

60. (b)

Explanation

- Multiplicity of cropping systems refers to the **practice of growing multiple crops in** the **same field** or region **throughout the year.** India's **diverse agro-climatic conditions** allow for the cultivation of various crops during different seasons, making this a prominent feature of the country's agriculture, which **enhances food production** and **income for farmers. Hence, statement (1) is correct.**
- While the **Green Revolution** did increase agricultural productivity in India by introducing **high-yielding varieties** of specific crops like wheat and rice, it **did not primarily focus on crop diversification.**
- It often led to the dominance of these staple crops, leading to concerns about the overreliance on them. In the Green revolution regions, a highly repetitive kind of cropping pattern is seen with the **'wheat-rice'** having **predominance.** It is leading to **prevalence of monocropping. Hence, statement (2) is NOT correct.**
- India is one of the world's major tea producers, and **tea cultivation** is indeed widely practiced. Tea is typically grown on tea plantations, which can be considered a form of **plantation agriculture.**
- **Assam, Darjeeling,** and other regions in India are well-known for their tea plantations, contributing significantly to the country's tea industry and exports. **Hence, statement (3) is correct.**

61. (b)

Explanation

- Price support subsidies, also known as **Minimum Support Price** (MSP) are designed to provide a **safety net** for farmers.
- When market prices for agricultural products dip below a certain level, the government steps in to purchase the produce from farmers at the pre-determined support price.
- This helps **maintain stable** and **predictable incomes** for farmers, safeguarding them from market fluctuations. **Hence, statement (1) is correct.**
- **Input subsidies,** like those on fertilizers, are considered indirect subsidies because they reduce the cost of inputs required for farming.
- By subsidizing fertilizers, governments aim to make them more affordable for farmers, ultimately improving agricultural productivity. **Hence, statement (2) is correct.**
- The World Trade Organisation has established **limits** on both **direct** and **indirect subsidies.** These limits are in

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place to prevent trade distortion and maintain fair competition among member countries in the global agricultural market.

- Indirect subsidies can affect trade dynamics just as much as direct subsidies, so both are subject to WTO regulations. **Hence, statement (3) is NOT correct.**

62. (b)

Explanation:

- Despite remarkable economic growth and agricultural production, a substantial portion of the population continues to suffer from hunger and starvation.
- India's GDP growth and agricultural output have shown impressive numbers in recent years, but these figures do not necessarily translate to improved living conditions or food security for all citizens.
- Issues related to the **equitable distribution of resources, access to food,** and **income inequality** play crucial roles in this problem.
- The **volatility in agricultural production,** which can be caused by factors such as erratic weather patterns, pests, or market fluctuations, can have a significant impact on food supplies.
- When agricultural **production is unstable,** it can lead to **food scarcity** and **price fluctuations,** which can disproportionately affect the lowest income groups.
- These groups often have limited resources and are more vulnerable to fluctuations in food prices and availability.
- While agricultural volatility is a contributing factor, it does not encompass the entire complex issue of hunger and starvation.
- These problems are also influenced by factors like food distribution, accessibility, social safety nets, poverty, and inequality. **Hence, statement-I and statement-II are correct but statement-II is NOT the correct explanation for statement-I.**

63. (b)

Explanation:

- The primary objective of implementing effective supply chain management in the context of agriculture in India is **to minimize post-harvest losses. Hence, option (b) is correct.**
- **This is because of following factors:**
  - **Food Security:** Post-harvest losses, which occur during **storage, transportation,** and **distribution,** can significantly impact the availability of food. Effective supply chain management helps ensure that more of the **agricultural produce reaches consumers,** reducing the risk of food shortages.
  - **Economic Impact:** Minimizing post-harvest losses is essential for the economic well-being of farmers. When significant portions of the harvest are lost due to **inadequate storage, transportation, or distribution,** farmers incur financial losses. Efficient supply chains help farmers get a **fair price** for their produce and **maximize** their **income.**
  - **Resource Utilization:** Agriculture consumes substantial resources, including **land, water,** and **labor.** When crops are lost due to post-harvest issues, these resources are wasted. Effective supply chain management ensures that the resources invested in cultivation are **optimized.**
  - **Reducing Environmental Impact:** Post-harvest losses contribute to environmental issues. When food is wasted, it also leads to the **waste of** the **resources used in production** and transportation, and it **generates greenhouse gas emissions.**
  - **Boosting Rural Economy:** Minimizing post-harvest losses through efficient supply chains ensures that rural economies thrive, as it **enhances** the **income of farmers** and those engaged in the agricultural value chain.

64. (d)

Explanation:

- **Over-reliance on Rainfed Agriculture:** In India, a substantial portion of agricultural land is rainfed, meaning it relies solely on natural rainfall. Overreliance on rainfed agriculture makes **crops vulnerable to droughts** and **inconsistent monsoons,** posing a risk to food production and farmers' livelihoods.
- **Waterlogging and Soil Salinity:** Poorly managed irrigation systems can lead to waterlogging, where excessive water accumulates in fields, causing **oxygen deprivation for plant roots.** Soil salinity results from the buildup of salt in irrigated soils, rendering them **infertile.** Both issues negatively affect crop productivity.
- **Excessive Groundwater Withdrawal:** Excessive pumping of groundwater for irrigation, often beyond sustainable levels, leads to **depletion of** the **water table.**

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This is a growing concern in parts of India and can lead to long-term water scarcity, affecting both agricultural and domestic water needs.

- **Wastage of Water Through Over-Irrigation:** Over-irrigation, or the application of more water than required, leads to the wastage of a precious resource. Inefficient irrigation practices result in **water losses,** decreasing the availability of water for other uses and **increasing** the **cost of irrigation.**
- **Limited Availability of Modern Irrigation Techniques:** Access to modern and efficient irrigation techniques is limited for many Indian farmers, particularly small and marginal farmers. The adoption of modern methods, such as **drip** and **sprinkler irrigation,** can significantly enhance water use efficiency and crop yields. **Hence, option (d) is correct.**

65. (a)

Explanation:

- **Rural-urban migration,** a common phenomenon in India, often leads to a **shortage of labour** in rural areas as people move to urban centers in search of better economic opportunities.
- This exodus of labour from agriculture has made it increasingly challenging for farmers to find sufficient labour for various **farming operations,** especially during critical phases like **planting** and **harvesting.**
- To address this labour shortage, farm mechanization becomes a compelling solution. Mechanization **reduces** the **dependency on manual labour,** making it possible for farmers to manage their operations efficiently, even with a reduced labour force. **Hence, statement (1) is correct.**
- This is particularly important in ensuring that **essential agricultural tasks** are **completed on time** and that crop yields are not compromised due to **labour shortages.**
- Mechanization **allows** for timely and precise farming operations, **reducing post-harvest losses,** and enhancing overall agricultural output.
- Farm mechanization, when properly implemented, generally leads to increased farm productivity and efficiency. **Hence, statement (2) is NOT correct.**
- It ensures that tasks are performed efficiently and accurately. When appropriately utilized, mechanization can be a key factor in **improving agricultural productivity** and **sustainability.**

66. (b)

Explanation:

- The **Government** of India **subsidizes fertilizers** to ensure that fertilizers are easily available to farmers and the country remains self -sufficient in agriculture.
- The government plays **a significant role in controlling the retail prices of chemical fertilizers. Hence, statement (1) is correct.**
- This administration helps ensure that fertilizers remain affordable for farmers.
- The same has been achieved largely by controlling the price of fertilizer and the amount of production. For example, as per the New Urea Policy, the government fixes the market price of urea. Also, there is a fixed subsidy component as well.
- Similarly, as per the **Nutrient Based Subsidy Scheme,** subsidy is provided based on nutrient content per kg of fertilizer.
- **Ammonia** is a key ingredient in the production of **nitrogen fertilizers.**
- Ammonia, a crucial component in urea production, is indeed sourced from natural gas. This process typically involves the **Haber-Bosch method** to produce ammonia from nitrogen and hydrogen, which is then used to produce urea-based fertilizers. **Hence, statement (2) is correct.**
- Sulphur is used in phosphoric acid fertilizer. **Sulphur** is a major **by-product of oil refining** and **gas processing.** Most crude oil contains some sulphur, most of which must be removed during the refining process to meet strict sulphur content limits in refined products. **Hence, statement (3) is NOT correct.**

67. (c)

Explanation:

- **Agricultural Extension Services** is defined as the process of delivering **agricultural knowledge** and **technology** to farmers. They involve the dissemination of valuable information, training, and innovations to farmers, helping them adopt improved practices and technologies.
- Agricultural extension services aim to **bridge** the **gap between scientific research** and **practical farming applications.**
- They provide farmers with guidance on **crop cultivation, pest management, soil health,** and modern agricultural techniques.

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- These services can **improve productivity** by providing **timely advisory services** to farmers to adopt best practices, technology, meet with contingencies, market information etc
- **Extension workers** or agents, often employed by government agencies or non-governmental organizations, work closely with farmers to ensure they have access to the latest farming methods and research findings.
- By offering knowledge and training, agricultural extension services contribute to increased agricultural productivity, better livelihoods for farmers, and food security.
- They also support sustainable and environmentally friendly farming practices. **Hence, option (c) is correct.**

68. (a)

Explanation:

- **Climate-smart agriculture** does aim to increase crop yields, but not at the expense of other critical factors such as **environmental sustainability, soil health**, and the **well-being of farmers.**
- It focuses on achieving sustainable intensification, which means **increasing agricultural productivity** while considering the long-term health of the ecosystem, **minimizing negative** environmental **impacts**, and **ensuring economic** and **social benefits. Hence, statement (1) is NOT correct.**
- Climate-smart agriculture recognizes the role of technology and machinery in improving agricultural practices. However, it encourages the **adoption of technology that is environmentally friendly** and contributes to **sustainability** and **climate resilience. Hence, statement (2) is NOT correct.**
- Climate-smart agriculture **does not exclusively promote traditional farming methods** but often combines traditional knowledge with modern innovations to address climate change challenges effectively.
- It **values indigenous practices** that have proven to be sustainable while also embracing new technologies and approaches. **Hence, statement (3) is NOT correct.**
- Climate-smart agriculture seeks to **enhance agricultural productivity** by adopting practices that not only adapt to the changing climate but also mitigate its effects.
- This can involve strategies like **crop diversification, soil conservation, water management**, and agroforestry to **enhance resilience** and **reduce greenhouse gas emissions. Hence, statement (4) is correct.**

69. (a)

Explanation:

- As **urbanization** and **industrialization** progress, many men from rural areas in India migrate to urban centres in search of better employment opportunities.
- This leaves a void in the agricultural workforce, and women are increasingly stepping in to fill this gap.
- The **feminization of the agriculture** sector is a term used to describe this phenomenon, where **women** play a more significant role in **farming activities, managing farms**, and contributing to **agricultural production. Hence, statement (1) is correct.**
- It reflects the changing dynamics within rural areas as women take on more responsibilities in agriculture.
- In India, land ownership patterns are skewed, with a majority of landholdings being owned by men.
- **Women's land ownership is limited,** and they often have reduced access and control over land resources.
- As per the **10th Agriculture Census (2015-16),** the percentage of female operational holdings in the country have increased from about 13% percent during 2010-11 to around 14% during 2015-16. **Hence, statement (2) is NOT correct.**

70. (b)

Explanation:

- Agricredit is a mediating input for agriculture to improve productivity.
- It underscores the **crucial role** that **agricultural credit** plays in **facilitating** and boosting **agricultural** activities.
- Access to credit enables farmers to make **critical investments** in their farms, such as purchasing quality seeds, fertilizers, machinery, and irrigation equipment. These investments, made possible through credit, contribute to increased agricultural productivity.
- Access to institutional credit does indeed enable farmers to **enhance** their **productivity.**
- Farmers who can access loans and credit facilities from banks and other financial institutions can make investments in their agricultural practices, leading to **improved yields** and overall productivity.
- Input use by farmers is sensitive to credit flows to the agriculture sector. It serves as a **financial lifeline** for many farmers.

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- Statement-II acknowledges the relationship between credit and productivity but doesn't delve into the details of why agriculture credit is essential for agricultural improvement. **Hence, statement-I and statement-II are correct but statement-II is NOT the correct explanation for statement-I.**

71. (a)

Explanation:

- The **15th BRICS summit**, the first in-person meeting since 2019 was held in **Johannesburg, South Africa.**
- **South Africa** has chosen the theme **"BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development, and Inclusive Multilateralism"** for the summit. **Hence, statement (1) is correct.**
- **Outcome of BRICS Summit:**
  - **Expansion of BRICS:** BRICS members agreed to induct six new member countries with their membership coming into effect from January 2024. These countries include **Argentina, Egypt, Ethiopia, Iran, Saudi Arabia and the UAE. Hence, statement (2) is NOT correct.**
  - **Johannesburg Declaration:** It encapsulates significant BRICS viewpoints on **global economic, financial and political matters.**
  - BRICS members committed themselves to strengthening the framework of mutually beneficial BRICS cooperation under the three pillars of Political and security, Economic and financial, and Cultural and people-to-people cooperation.
  - **Strategic Partnership:** With a focus on areas like the promotion of peace, a more representative, **fairer international order,** a reinvigorated and **reformed multilateral system,** sustainable development and inclusive growth.
  - **Trade in local Currencies:** The BRICS summit tasked BRICS finance ministers and central bank governors to consider the issue of local currencies, payment instruments and platforms.

72. (a)

Explanation:

- **Seigniorage** is the **difference** between the **face value** of money—**both paper bills and coins**—and what it **costs to produce it. Hence, statement (1) is correct.**
- In other words, the cost of producing a currency within a given economy or country is lower than the actual exchange value, which generally accrues to governments that mint the money.
- Seigniorage may be counted as positive revenue for a government when the money it creates is worth more than it costs to produce.
- In some situations, the production of currency can result in a loss instead of a gain for the government creating the currency.
- If the **seigniorage is positive,** the government will make a **profit;** a negative seigniorage will result in a **loss. Hence, statement (2) is NOT correct.**
- It can also be termed as a source of revenue for governments as the value of money printed is generally higher than the cost of producing it.
- If the currency produced values more than the cost involved in its production, the government earns a profit. If the cost involved in its production crosses its value, then the government suffers a loss.

73. (a)

Explanation

- **Inflation** is a **measure of the rate of rising prices** of goods and services in an economy.
- Inflation can occur when prices rise due to increases in production costs, such as raw materials and wages.
- A surge in demand for products and services can cause inflation as consumers are willing to pay more for the product.
- Inflation redistributes wealth from creditors to debtors. **Hence, statement (1) is correct.**
- Rising inflation does not always indicate rising aggregate demand and higher purchasing capacity among consumers. It is influenced by demand pull and cost push factors as:
  - **Demand-Pull Inflation:** This occurs when aggregate demand exceeds aggregate supply, leading to upward pressure on prices. It can be a sign of strong consumer and business demand, but it can also be due to factors like excessive government spending or an overheated economy.
  - **Cost-Push Inflation:** This type of inflation is driven by increases in production costs, such as rising wages, energy prices, or the cost of raw materials. It can lead to higher prices without a corresponding increase in aggregate demand. **Hence, statement (2) is NOT correct.**

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- It **increases the nominal value** of wages, while their **real value falls. Hence, statement (3) is NOT correct.**

74. (b)

Explanation:

Capital Account Convertibility:

- The **balance of payments** (BOP) of a country records **all economic transactions** of a country (that is, of its individuals, businesses and governments) **with the rest of the world** during a defined period, usually one year.
- These transactions are broadly divided into two heads – **current account** and **capital account.**
- The current account covers exports and imports of goods and services, factor income and unilateral transfers.
- The capital account records the net change in foreign assets and liabilities held by a country.
- **Convertibility** refers to the **ability to convert domestic currency into foreign currencies and vice versa** to make payments for balance of payments transactions.
- It provides a limited scope for the movement of capital, primarily for trade-related transactions.
- Current account convertibility is the ability or freedom to convert domestic currency for current account transactions while **capital account convertibility is the ability or freedom to convert domestic currency for capital account transactions.**
- The **Tarapore Committee** (2006), for instance, defined capital account convertibility as the "freedom to convert local financial assets into foreign financial assets and vice versa. **Hence, option (b) is correct.**

75. (b)

Explanation:

- Treasury bills are used by central government to fulfil short term liquidity requirement up to period of 364 days. Treasury bills are zero coupon securities and pay no interest. **Hence, statement (1) is correct.**
- Certificate of deposit was originally used by banks to fulfil their funding requirements for specified period ranging less than 1 year–they are negotiable and tradeable in money market.
- Commercial paper is an unsecured promissory note and is used by highly rated corporate borrowers. **Hence, statement (2) is correct.**
- Commercial bill is issued by all India financial institutions, non-banking finance companies, scheduled commercial banks, merchant banks, cooperative banks and mutual funds.
- Call money market is an interbank money market where funds are borrowed and lent generally for 1 day. Funds are borrowed for maximum period up to **14 days. Hence, statement (3) is NOT correct.**

76. (a)

Explanation:

- Golden handcuffs are financial incentives given to employees to discourage them from leaving a company.
- **Royalty payment by a company to employees to keep them with the company and save them by poaching from other companies.**
- Employers offer incentives in order to retain individuals that have performed well for the company or those that have exceptional or irreplaceable skills.
- A negative connotation is often associated with golden handcuffs as they prevent people from leaving jobs, they would otherwise vacate but don't because the financial loss would be large.
- Incentives that can be considered golden handcuffs include large bonuses, school payments, stock options, and a company car.
- These incentives come with agreements that stipulate an employee will receive them only after a certain period of employment or they will have to return them if they leave before a certain date.

Hence, option (a) is correct.

77. (b)

Explanation:

- American economist Arthur Laffer developed a bell-curve analysis in 1974 known as the Laffer Curve.
- The **Laffer Curve** shows the relationship between **tax rates and total tax revenue. Hence, statement (1) is NOT correct.**
- The Laffer Curve states that **total tax revenue is most likely not maximized when tax rates are at 100%,** as this disincentives workers from earning wages.
- The Laffer Curve was used as a basis for tax cuts in the 1980s during the Reagan Administration.
- Critics argue that the Laffer curve is too simplistic and uses a single tax rate.
- The Laffer curve is mostly applicable in direct taxes like personal income tax.
- Plotting the Laffer theme into a graph gives an inverted U-shaped curve. **Hence, statement (2) is correct.**

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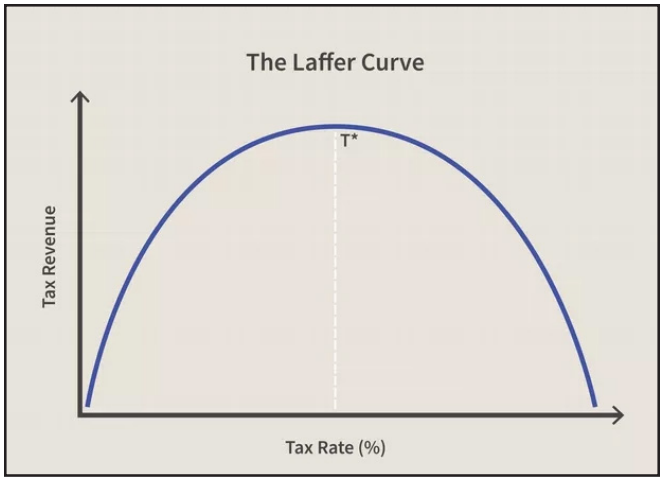

78. (c)

Explanation:

- In a **perfectly competitive** market, **firms** are **price-takers. Hence, statement (1) is correct.**
- The total revenue of a firm is the market price of the good multiplied by the firm's output of the good.
- For a price taking firm, average revenue is equal to market price.
- For a price taking firm, marginal revenue is equal to market price.
- The **demand curve** that a firm faces in a **perfectly competitive** market is perfectly **elastic,** it is a horizontal line at market price.
- The profit of the firm is the difference between total revenue earned and total cost incurred.
- A price-taker is an individual or company that must accept prevailing prices in a market, lacking the market share to influence market price on its own.
- Due to market competition, most producers are also price-takers. Only under conditions of monopoly or monopsony do we find price-making.
- A **monopsony** is a market in which a **single buyer or a group of buyer**s has a significant-enough share of demand to drive prices down. **Hence, statement (2) is correct.**
- Market makers set prices in financial products like stocks. But market makers are also in competition with one another to trade.
- In the stock market, individual investors are considered to be price-takers, while market makers are those who set the bid and offer in a security.

79. (d)

Explanation:

- The World Bank Group consists of **five development institutions.**
- **International Bank for Reconstruction and Development (IBRD)** provides loans, credits, and grants. An institution that provides debt financing to governments that are considered **middle income at low interest rate. Hence, statement (1) is NOT correct.**
- **International Development Association (IDA)** group that give**s interest-free loans to the governments of poor countries for long term. Hence, statement (2) is NOT correct.**
- The **International Finance Corporation (IFC)** provides investment, advice, and asset management to companies and governments.
- The **Multilateral Guarantee Agency (MIGA)** insures lenders and investors against political risk such as war.
- The **International Centre for the Settlement of Investment Disputes (ICSID)** settles investment-disputes between investors and countries. **India** is **not part** of this group.

80. (b)

Explanation:

- The New Development Bank (NDB) was created by the Fortaleza Declaration. It was established during the **6th BRICS summit** held in **Fortaleza, Brazil,** in 2014. **Hence, statement (1) is correct.**
- Each of the member countries of the NDB, which includes **Brazil, Russia, India, China, and South Africa**, has **an equal share in the bank's capital.** They each contributed $10 billion to the bank's initial capitalization.
- The **New Development Bank (NDB)** on September 2, 2021 admitted **United Arab Emirates, Uruguay and Bangladesh as its new members.** The bank has been set up by all the nations that are part of the BRICS Bloc.
- **All members of the United Nations can be the members of the bank but the share of the BRICS nations can never be less than 55 percent of voting power. Hence, statement (2) is NOT correct.**
- The NDB has a **Contingent Reserve Arrangement (CRA) of $100 billion,** which serves as a financial safety net for BRICS countries in times of financial crises. The CRA was also established during the 6th BRICS summit in Fortaleza in 2014. **Hence, statement (3) is correct.**

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81. (a)

Explanation:

- The **Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank** that was established to promote infrastructure development and investment in **the Asia-Pacific region.**
- China took a lead role in proposing the bank's establishment, seeing it as an opportunity to address the region's infrastructure funding gap and to play a more prominent role in international financial institutions.
- The AIIB was officially launched in October 2014, with **21 founding member countries.**
- **Notably, some major Western economies, including the United States and Japan did not join AIIB.**
- The AIIB started with **an initial authorized capital of $100 billion, with China as the largest shareholder.** Other member countries made financial contributions, with their shares based on their economic size. **Hence, statement (2) is NOT correct.**
- **The primary objective of the AIIB is to finance infrastructure projects that promote sustainable economic development in Asia.** These projects can range from transportation and energy to telecommunications and water supply.
- **India is presently the largest beneficiary of AIIB financing for infrastructure projects. Hence, statement (1) is correct.**

82. (b)

Explanation:

- **Agreement on Fisheries Subsidies (AFS)** was concluded at the **World Trade Organization (WTO) Ministerial meeting.**
- It will **prohibit subsidies** from being provided for **Illegal, Unreported and Unregulated (IUU)** fishing and overfished stocks. **Hence, statement (2) is correct.**
- The agreement also **prohibits** providing subsidies for **fishing** on high seas, which are **outside the jurisdiction of coastal countries and Regional Fisheries Management Organizations/Arrangements.**
- Under the **Special and Differential Treatment (S&DT),** Developing Countries and Least Developed Countries (LDCs) have been allowed a **transition period of two years** from the date of entry into force of this Agreement. They will have **no obligation** to implement disciplines for the specified period.
- **No prohibition** has been imposed on a WTO Member regarding granting or maintaining subsidy to its vessel or operator **as long as it is not carrying out IUU. Hence, statement (1) is NOT correct.**
- **No prohibition** on providing subsidies has been imposed for fishing regarding **overfished stocks as long as such subsidies are implemented to rebuild the stock** to a biologically sustainable level.

83. (a)

Explanation:

- **A twin-balance sheet crisis is a financial crisis in which both the banking sector (the balance sheets of banks) and the corporate sector (the balance sheets of non-financial companies) of an economy are under stress due to high levels of debt, non-performing assets, and financial instability. Hence, option (a) is correct.**
- Indian economy has moved away from twin-balance sheet problem, banks now profitable according to Finance Minister.
- There is an improvement in all critical parameters like return on asset, net interest margin and provisioning coverage ratio.
- The 4R strategy followed by the government to revitalise the state-owned banks has yielded results.
- **The 4R strategy refers to recognising the problem of non-performing assets, recapitalising the banks, resolving their problems, and reforming them.**

84. (c)

Explanation:

- **Nanomicelles** are formed when **amphiphilic** molecules assemble themselves to create a globular structure that is only around **5 to 100nm** in diameter.
- Different agents are used to create nanomicelles, however, **they are usually made through surfactant molecules that may be non-ionic, ionic, and cationic detergents. Hence, statement (2) is correct.**
- Some nanomicelles may also be developed from a mixture of **lipids and detergents.**

Use in Drug Delivery:

- **They are amphiphilic,** i.e., have a **hydrophilic outer shell** and a **hydrophobic interior. Hence, statement (3) is NOT correct.**

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- This dual property makes them a **perfect carrier** for delivering **drug molecules.**
- The **hydrophilic shell** makes the **micelle water soluble** that allows for intravenous delivery while the hydrophobic core carries a payload of drug for therapy.
- Once injected intravenously, these nanomicelles can **easily escape the circulation** and enter the **tumours** where the blood vessels are found to be leaky.
- These leaky blood vessels are **absent in healthy organs.**
- They are used primarily as solutions for membrane proteins. **Hence, statement (1) is correct.**

85. (c)

Explanation:

- **India is now one of the leading producers of agrochemicals in the world. But non-scientific and excessive application** of synthetic fertilisers and pesticides damages not only the environment and **life of agricultural land** but also has entered into the food chain thereby affecting **plant, human, and animal health.**
- In order to reduce the negative impact on the **ecological dynamics,** use of fertilisers and pesticides should be reduced, and **sustainable alternatives should be explored.**
- A subsidy is paid by centre for urea fertiliser, based on the cost of production at each plant.
- Fertilizer manufacturers are required to sell the product at the government's **Maximum Retail Price (MRP). Hence, statement (2) is correct.**
- **Pesticides: Pesticides** are regulated in India through the **Insecticide Act, 1968** and **Insecticides Rules, 1971. Hence, statement (1) is correct.**
- **Insecticides, herbicides, rodenticides, and fungicides** are examples of well-known pesticides.

86. (c)

Explanation:

- Genome sequencing means deciphering the exact order of base pairs in an individual.
- **A genome is an organism's complete set of DNA (deoxyribonucleic acid). Hence, statement (1) is correct.**
- It includes all chromosomes, which houses DNA, and genes (specific sections of DNA).
- The human genome contains about 3 billion base pairs that spell out the instructions for making and maintaining a human being.
- **Pan-genome represents the entire set of genes within a species, consisting of a core genome and the 'dispensable' genome. Hence, statement (2) is correct.**
- **The core genome of a species consists of genes shared by all strains. Hence, statement (3) is correct.**
- The **dispensable genome** is made up of genes shared by some but not all strains (accessory genes) and genes present in only one strain (unique genes).

87. (b)

Explanation:

- Un-Plastic Collective (UPC) is a **voluntary** initiative launched by the **UN-Environment Program-India, Confederation of Indian Industry and WWF-India. Hence, statement (1) is NOT correct.**
- The Collective seeks to **minimise externalities** of plastics on the **ecological** and **social health** of our planet. **Hence, statement (2) is correct.**
- As a part of **UPC initiative** companies set time-bound, public targets to:
  - Eliminate unnecessary use of plastic.
  - Reuse and circulate plastics through the circular economy.
  - Replace plastic with sustainable alternative or recycled plastics.
  - Turn commitments to meaningful and measurable action.
- According to the **Central Pollution Control Board (CPCB),** India generates close to 26,000 tonnes of plastic a day and over 10,000 tonnes a day of plastic waste remains uncollected.
- According to a **Federation of Indian Chambers of Commerce and Industry (FICCI)** study the plastic processing industry is estimated to grow to 22 million tonnes (MT) a year by 2020 from 13.4 MT in 2015 and nearly half of this is single-use plastic.

88. (d)

Explanation

- **Antiseptics and disinfectants are also the chemicals which either kill or prevent the growth of microorganisms.**

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- **Antiseptics are applied to the living tissues such as wounds, cuts, ulcers and diseased skin surfaces.** Examples are furacine, soframicine, etc. **Hence, statement (1) is NOT correct.**
- These are not ingested like antibiotics. Commonly used antiseptic, dettol is a mixture of chloroxylenol and terpineol.
- Bithionol (the compound is also called bithional) is added to soaps to impart antiseptic properties. Iodine is a powerful antiseptic.
- Its 2-3 per cent solution in alcohol water mixture is known as tincture of iodine.
- It is applied on wounds. Iodoform is also used as an antiseptic for wounds. Boric acid in dilute aqueous solution is weak antiseptic for eyes.
- **Disinfectants are applied to inanimate objects such as floors, drainage system, instruments, etc. Hence, statement (2) is NOT correct.**
- Same substances can act as an antiseptic as well as disinfectant by varying the concentration.
- For example, 0.2 per cent solution of phenol is an antiseptic while its one percent solution is disinfectant.

89. (d)

Explanation:

Nuclear Fission:

- Fission takes place when a large, somewhat unstable isotope (atoms with the same number of protons but different number of neutrons) is bombarded by high-speed particles, **usually neutrons. Hence, statement (2) is NOT correct.**
- These neutrons are accelerated and then slammed into the unstable isotope, causing it to fission, or break into smaller particles.
- During the process, a neutron is accelerated and strikes the target nucleus, which in the majority of nuclear power reactors today is **Uranium-235.**
- This splits the target nucleus and breaks it down into two smaller isotopes (the fission products), three **high-speed neutrons,** and a large amount of energy.
- This resulting energy is then used to heat water in nuclear reactors and ultimately produces electricity. The high-speed neutrons that are ejected become projectiles that initiate other fission reactions, or chain reactions.

Nuclear Fusion:

- **Fusion takes place when two low-mass isotopes, typically isotopes of hydrogen, unite under conditions of extreme pressure and temperature.**
- Atoms of **Tritium and Deuterium** (isotopes of hydrogen, Hydrogen-3 and Hydrogen-2, respectively) unite under extreme pressure and temperature to produce a neutron and a helium isotope.
- Along with this, an enormous amount of energy is released, which is several times the amount produced from fission.
- Inside the sun, **fusion reactions** take place at very high temperatures and enormous gravitational pressures. **Hence, statement (1) is NOT correct.**

90. (c)

Explanation:

- **Somatic cell nuclear transfer (SCNT), technique in which the nucleus of a somatic (body) cell is transferred to the cytoplasm of an enucleated egg (an egg that has had its own nucleus removed). Hence, statement (2) is correct.**
- Mouse, monkey, and human ESCs have been made using SCNT; human embryonic stem cells (ESCs). ESCs have potential applications in both medicine and research.
- **While SCNT is well-known for cloning animals, it also has potential applications in medical and therapeutic fields, including the generation of stem cells for regenerative medicine and disease research. Hence, statement (3) is NOT correct.**
- **The most practical application of SCNT is in the reproductive cloning of farm animals that have exceptional qualities, such as the ability to produce large quantities of milk. Hence, statement (1) is correct.**
- Reproductive cloning is accomplished by implanting an SCNT-derived blastocyst into the uterus of a surrogate mother, in which the embryo develops into a foetus carried to term.
- **Dolly the sheep, born in 1996, was the first mammal cloned using SCNT. Hence, statement (4) is correct.**
- The technique also could be used to resurrect extinct species; for example, cells collected from a frozen woolly mammoth could be used as nuclear donors for enucleated elephant eggs.
- Proof of principle for such "resurrection" was provided by an experiment in which mice were cloned using somatic cell nuclei derived from a mouse that was frozen for more than 15 years.

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91. (b)

Explanation:

- **Ready-to-use therapeutic food (RUTF), also referred to as energy dense nutritious food (EDNF), is a medical intervention to improve the nutrition intake of children suffering from Severe Acute Malnutrition (SAM). Hence, statement (1) is NOT correct, and statement (2) is correct.**
- RUTF is a packaged paste of peanuts, oil, sugar, vitamins, milk powder and mineral supplements, which contains 520-550 kilocalories of energy per 100 g. **Hence, statement (4) is correct.**
- Additional ingredients may include nuts, legumes, grains and sweeteners to improve the taste.
- The paste is given to children aged between six months and six years, usually after a doctor's prescription.
- **RUTF is usually provided in a ready-to-use form and does not require reconstitution with water or milk. Hence, statement (3) is NOT correct.**
- It is designed to be consumed directly, which is one of its advantages in areas with limited resources and access to clean water.
- **RUTF use is common in Africa,** where the incidence of malnutrition among children is high.
- **In India, the global collaborative Scaling Up Nutrition (SUN) movement has tied up with Maharashtra, Uttar Pradesh and Jharkhand to promote therapeutic food as a solution to malnourishment.**
- Pilot projects to treat SAM children with RUTF have been undertaken in all three states and in Bihar.

92. (a)

Explanation:

- **Every coordination within or between animals depends on communication processes.**
- Although the **signalling molecules, vocal and tactile signs, gestures and its combinations differ throughout all species according to their evolutionary origins and variety of adaptation processes. Hence, statement (1) is correct.**
- Certain levels of biocommunication can be **found in all animal species:**
  - Abiotic environmental indices such as temperature, light, water, etc. that affect the local ecosphere of an organism and are sensed, interpreted.
  - **Trans-specific communication** with non-related organisms.
  - Species-specific communication between same or related species.
  - Intraorganismic communication, i.e., sign-mediated coordination within the body of the organism. **Hence, statement (2) is NOT correct.**

93. (d)

Explanation:

- The metaverse is the emerging **3-D-enabled digital space that uses virtual reality, augmented reality, and other advanced internet and semiconductor technology to allow people to have lifelike personal and business experiences online.**
- **Virtual reality –** a key technology that enables the next-level immersion that partly qualifies a platform or application as part of the metaverse – opens a whole new range of possibilities.
- **Telemedicine consultations, particularly through VR, mean patients are no longer limited to being treated by particular clinicians due to their physical location.**
- **Space exploration without the need for rockets or spacesuits has been made possible with the help of metaverse technology.** The complex virtual landscapes enable space explorers to navigate the stars, planets, and galaxies with unrivalled ease.
- **Finance in the metaverse refers to the virtual economy that operates within this space, including the buying, selling, and trading of virtual goods, services, and currencies.**
- This virtual economy is driven by virtual activities such as gaming, socializing, and online shopping, among others.
- The use of cryptocurrencies is becoming increasingly popular in the metaverse for transactions and asset ownership verification.

Hence, option (d) is correct.

94. (a)

Explanation:

- There are **two main types of diagnostic tests** for COVID-19 virus:
  - Molecular tests are the most accurate but usually are performed by lab technicians.

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- Antigen tests are fast and inexpensive but less accurate.

- **Molecular Tests:**
  - These tests look for the virus's genetic material and are the current standard for diagnosing COVID-19.
  - **Most testing sites use polymerase chain reaction (PCR) tests,** which are very accurate but are usually performed in large, certified labs and require skilled lab workers. **Results can take several days to come back. Hence, statement (1) is correct.**
  - **Rapid point-of-care molecular tests, such as Abbott's ID NOW,** can provide results within 13 minutes. These tests can also be used outside traditional health care settings, and they are quickly becoming more widespread.
- **Antigen Tests:**
  - **These rapid tests, which detect certain proteins on the surface or in the virus in respiratory samples, are inexpensive, efficient, and fast. Hence, statement (2) is NOT correct.**
  - They can be used to make a clinical diagnosis in symptomatic patients in the first five days of symptoms. However, they aren't currently recommended for screening asymptomatic populations.
  - Antigen tests would be very good screening tests for symptomatic patients early in illness—particularly in settings where access to a molecular test is poor.

95. (c)

Explanation:

- The **open web, or surface web,** is the **"visible"** surface layer.
  - All commonly public-facing websites accessed via traditional browsers like Google Chrome, Internet Explorer, and Firefox are contained here.
  - **Locating surface web websites is possible because search engines can index the web via visible links (a process called "crawling" due to the search engine traveling the web like a spider). Hence, statement (1) is correct.**
- The deep web rests below the surface and accounts for approximately 90% of all websites.
- While many news outlets use "deep web" and "dark web" interchangeably, much of the deep portion as a whole is perfectly legal and safe.
- **Some of the largest parts of the deep web include:**
  - **Databases:** both public and privately protected file collections that are not connected to other areas of the web, only to be searched within the database itself.
  - **Intranets:** internal networks for enterprises, governments, and educational facilities used to communicate and control aspects privately within their organizations.
- **The dark web refers to sites that are not indexed and only accessible via specialized web browsers. Hence, statement (2) is correct.**
- **The dark web was once the province of hackers, law enforcement officers, and cybercriminals. However, new technology like encryption and the anonymization browser software, Tor, now makes it possible for anyone to dive dark if they're interested.**
- Tor ("The Onion Routing" project) network browser provides users access to visit websites with the ". onion" registry operator.

96. (d)

Explanation:

- **Nanotechnology** refers to the branch of science and engineering devoted to designing, producing, and using structures, devices, and systems by **manipulating atoms and molecules at nanoscale, i.e., having one or more dimensions of the order of 100 nanometres (100 millionth of a millimetre) or less. Hence, statement (1) is NOT correct.**
- As far as health risks are concerned, there are two types of nanostructures to consider:
  - Those where the structure itself is a free particle, called free nanoparticles, which is the group of greater concern; and
- Those where the nanostructure is an integral part of a larger object, for instance, materials with coatings composed of nanomaterials. **However, as long as the nanoparticles are fixed to the carrier, there is no reason to suppose that they pose a greater risk for health or the environment than the larger scale materials. Hence, statement (2) is NOT correct.**

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97. (b)

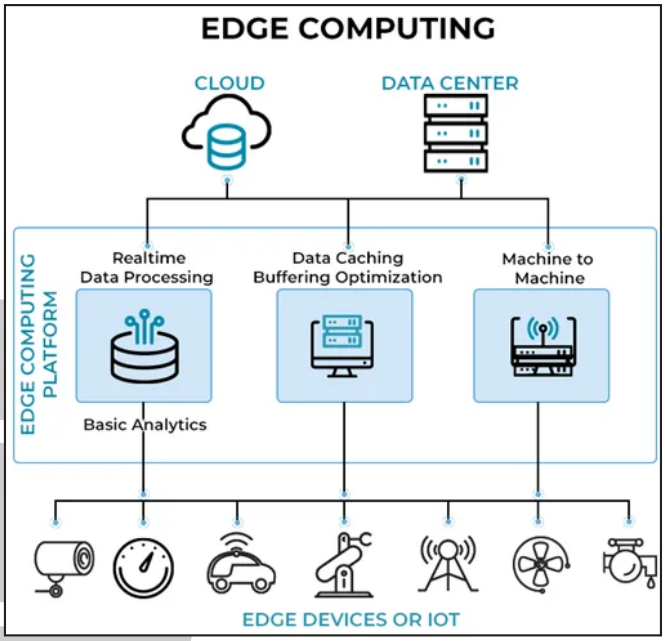
Explanation:

- **Whole genome sequencing is a powerful tool that allows researchers to examine the entire genomic sequence of an individual, including both coding and non-coding regions. Hence, statement (1) is NOT correct.**
- This comprehensive approach can provide insights into the genetic basis of complex traits, such as antidepressant response.
- **Next-generation sequencing (NGS) is a massively parallel sequencing technology that offers ultra-high throughput, scalability, and speed. Hence, statement (2) is correct.**
- The technology is used to determine the order of nucleotides in entire genomes or targeted regions of DNA or RNA.
- NGS has revolutionized the biological sciences, allowing labs to perform a wide variety of applications and study biological systems at a level never before possible.
- **The Department of Biotechnology (DBT) initiated the ambitious "Genome India Project" (GIP) in 2020.**
- The GIP **aims to collect 10,000 genetic samples from citizens across India, to build a reference genome.**
- **This would aid our understanding of the nature of diseases affecting the Indian population, and then ultimately support the development of predictive diagnostic markers. Hence, statement (3) is correct.**

98. (c)

Explanation:

- **Edge computing offers data processing functionality close to the devices or the data's source. Hence, option (c) is correct.**
- Sending all that device-generated data to a centralized data center or to the cloud causes bandwidth and latency issues.
- **Edge computing offers a more efficient alternative**; data is processed and analysed closer to the point where it's created.
- Because data does not traverse over a network to a cloud or data centre to be processed, latency is significantly reduced.
- Edge computing — and mobile edge computing on 5G networks — enables faster and more comprehensive data analysis, creating the opportunity for deeper insights, faster response times and improved customer experiences.



99. (b)

Explanation:

- **Near-field communication (NFC)** is a **short-range wireless technology.**
- **NFC transfers information between devices quickly and easily with a single touch**—whether paying bills, exchanging business cards, downloading coupons, or sharing a research paper.
- Near-field communication **transmits data through electromagnetic radio fields** to enable two devices to communicate with each other. To work, both devices must contain NFC chips, as transactions take place within a very short distance. NFC-enabled devices must be either physically touching or within a few centimetres of each other for data transfer to occur.
- Perhaps most significantly, NFC doesn't require you to jump through the kind of hoops that you may be used to with Bluetooth or Wi-Fi devices. There are **no manual pairing or device discovery steps or passwords to deal with.**

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- All you need to do is place your smartphone within about four inches of another NFC device; it should immediately detect it and be ready to go. **Hence, option (b) is correct.**

100. (c)

Explanation:

- **Gamma rays** are a form of **electromagnetic radiation** with **extremely high energy and short wavelengths.**
- They are produced by nuclear reactions, radioactive decay, and certain high-energy particle interactions.
- Gamma rays have several important properties, including their ability to penetrate most materials, making them useful for **medical imaging, cancer treatment, and industrial testing.**
- They are also employed in **sterilizing medical equipment and food,** as well as in nuclear weapons and power generation.
- **Radioactive isotopes** that **emit gamma rays are used as tracers in medical imaging.** By introducing these tracers into the body, medical professionals can monitor the functioning of organs and tissues, aiding in the diagnosis of various conditions.
- Despite their potential hazards, gamma rays play a crucial role in various fields, thanks to their penetrating power and ability to reveal the inner structure of matter.
- Gamma rays are **not used for communication due to high penetration power. Hence, option (c) is correct.**

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